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STOMATOLOGY

ORAL STATUS AND BIOCHEMICAL PARAMETERS OF SALIVA IN PATIENTS WITH CHRONIC KIDNEY DISEASE DEPENDING ON THE DURATION OF HEMODIALYSIS TREATMENT

Babayev D.A.

Key words: chronic kidney disease, duration of hemodialysis treatment, oral status, CRP, saliva.

Oral status and biochemical parameters of saliva were investigated in 60 patients with end-stage chronic kidney disease who passed through hemodialysis treatment of different duration. The patients were divided into groups depending on the duration of hemodialysis treatment: 15 patients were treated less than 3 years, 16 patients took the treatment from 3 to 5 years, and 29 patients were treated over 5 years. Poor oral hygiene, high intensity of curiosity and moderate periodontal inflammation were revealed in the patients whose treatment duration was over 5 years, but these three groups were statistically differed by PMA index. Levels of phosphorus, calcium and CRP in saliva increased depending on the duration of hemodialysis treatment. CRP content in the groups varied insignificantly. Patients who are on hemodialysis more than 5 years should be under clinical and dental supervision with a focus on preventing destruction of periodontal tissues.

References

1. Afanas'ev V.V. Pokazateli smeshannoj sljuny i sostojanie tkanej polosti rta u bol'nyh s terminal'noj stadij hronicheskoy pochechnoj nedostatochnosti, poluchajushhih programmnyj gemodializ / V.V.Afanas'ev, A.V. Pushkina [i dr.] // Ross. stomat. zhurnal. – 2007. – № 1. – S. 8-10.
2. Vavilova T.P. Pokazateli smeshannoj sljuny i sostojanie tkanej polosti rta u bol'nyh s terminal'noj stadij hronicheskoy pochechnoj nedostatochnosti, poluchajushhih programmnyj gemodializ / T.P. Vavilova, V.V. Afanas'ev, M.V. Osokin // Ross. stomat. zhurnal. – 2007. – № 1. – S. 8-10.
3. Dati F. Belki. Laboratornye testy i klinicheskoe primenenie / F. Dati, Je.M. Metimani. – 2007. – 272 s.
4. Zhdanova T.V. Vzaimosvjaz' uremicheskikh toksinov i markerov vospalenija u bol'nyh s hronicheskoy pochechnoj nedostatochnost'ju / T.V. Zhdanova, A.V. Nazarov, V.A. Shalaev [i dr.] // Nefrologija. – 2004. – T. 8, № 7. – S. 62-67.
5. Majborodin I.V. Hronicheskaja pochechnaja nedostatochnost' i izmenenija / I.V. Majborodin, T.M. Ragimova, I.M. Minikeev // Nefrologija i dializ. - 2013. – № 3. – S. 191-199.
6. Osokin M.V. Sostojanie sljunnyh zhelez u bol'nyh s hronicheskoy pochechnoj nedostatochnost'ju v terminal'noj stadii : avtoref. diss. na soiskanie nauchnoj stepeni kand. med. nauk : spec. 14.00.21 «Stomatologija», 03.00.04 «Biohimija» / M.V. Osokin. – Moskva, 2007, 18 s.
7. Truhacheva N.V. Matematicheskaja statistika v mediko-biologicheskikh issledovanijah s primeneniem paketa Statistica / N.V. Truhacheva. - M. : GJeOTAR-Media, 2012. – 384 s.
8. Jashhuk E.V. Sostojanie polosti rta u bol'nyh s terminal'noj stadij hronicheskoy pochechnoj nedostatochnosti, nahodjashhihsja na dializnoj terapii : avtoref. diss. na soiskanie nauchnoj stepeni kand. med. nauk : spec. 14.00.21 «Stomatologija» / E.V. Jashhuk. – Sankt-Peterburg, 2009. – 26 s.
9. Loughrey C.M. Oxidative stress in haemodialysis / C.M. Loughrey, I.S. Young, J.H. Lightbody [et al.] // QJM87. – 1994. – P. 679-683.
10. Mc.Grath L.T. Oxidative stress and erythrocyte membrane fluidity in patients undergoing regular dialysis / L.T. Mc.Grath, A.F. Douglas, E. McClean [et al.] // Clin.Chim.Acta. – 1995. – № 235. – P.179-188.
11. Miyata T. Alterations in nonenzymatic biochemistry in uremia: origin and significance of "carbonyl stress" in long-term uremic complications / T. Miyata, C. vanYpersele de Strihou, K. Kurokawa, J.W. Baynes // Kidney Int. – 1999. – Vol. 55. – P. 389-399.
12. Odetti P. Plasma advanced glycosylation end-products in maintenance haemodialysis patients / P. Odetti, L. Cosso, M.A. Pronzato [et al.] // Nephrol. Dial. Transplant. – 1995. – Vol. 10(11). – P. 2110-2113.

EVALUATION OF CLINICAL EFFICIENCY OF FILLING MATERIAL «LATELUX» IN THE TREATMENT OF CARIOUS CAVITIES OF DIFFERENT CLASSES

Biryukova M.M.

Key words: dentistry, filling materials, caries.

This paper presents the results of clinical monitoring of the patients, whose carious cavities were restored with new in-home filling material «LATELUX». Depending on the stage of monitoring and class of the defect we identified some additional restorative works needed to be done, which required dynamic monitoring of patients. We described the commonest clinical and process defects and substantiated the step-by-step structure, timing, types and extents of additional works to improve restoration quality depending on the stage of carious cavity by G.V. Black.

References

1. Ammaev M.G. Usovershenstvovannyj sposob ocenki jeffektivnosti lechenija nachal'nogo kariesa / M.G. Ammaev // Kubanskij nauchnyj medicinskij vestnik. - 2013. - № 6. - S. 32-34.
2. Kucevljak V.F. Rezul'tati klinichnogo zastosuvannja gibridnogo kompozitnogo materialu «KROMLAIT-2» / V.F. Kucevljak, L.M. Karpec' // Visnik stomatologii. - 2005. - №2. - S. 37-39.
3. Kucevljak V.F. Metodi po-krashhennja krajovogo priljagannja kompozitnih restavracij / V.F. Ku-čevljak, L.M. Karpec' // Stomato-logija. - 2008. - №3. - S. 14-15.
4. Pat. 27204 11, Ukraïna, MPK 7 A61K 6/08 (2006. 01) Material dlja plombuvannja zubiv / Bok Ju. V., Ku-čevljak V. F., Biryukova M. M., Bok V. I., Ivashhenko SV., Bardinova N. O. (1)A). - №i 200705349; zajavl. 15. 05. 07; opubl. 26. 10. 07. - Promislova vlasnist'. Bjul. №17.
5. Pomojnic'ka M.V. Klinichna ocinka stanu plomb pri plombuvanni kariozних porozhnin iz viznachennjam parametriv vologosti dentinu / M.V. Pomojnic'ka // Ukraïns'kij stomatologichnij al'manah. - 2013. - № 1. - S. 29-31.
6. Radlinskij S.V. Topografija sloev kompozita v restavracionnoj konstrukcii bokovogo zuba / S.V. Radlinskij, V. Grisimov // DentArt. - 2007. - № 2. - S. 42-48.

REHABILITATION PROGRAMS FOR PATIENTS WITH INFLAMMATORY DISEASES AND INJURIES OF MAXILLOFACIAL AREA: FREQUENCY AND CHARACTER OF COGNITIVE DYSFUNCTION

Hryhorova A. O.

Key words: oral surgery, psychophysiology, cognitive dysfunction.

The aim of the research is to study the dynamics of cognitive functions in patients with inflammatory diseases and injuries of the maxillofacial area on the pre- and postoperative stages of clinical monitoring. Materials and methods of the research. The study of frequency and nature of cognitive dysfunction in patients with inflammatory diseases and injuries of the maxillofacial area has been done on the I-II stages of their clinical monitoring in a specialized oral surgery department of dental clinic. 105 people were involved into the research on above-mentioned stages (43 patients with maxillofacial injuries and 62 patients with inflammatory diseases of the maxillofacial area). The psychophysiological methodology, based on the Raven's Progressive Matrices, for psychophysiological diagnostics to assess cognitive functions was used.

Results and their discussion. Analysis of results of evaluating attention and perception levels on stages of the CM of patients with inflammatory diseases of the maxillofacial area showed that in the early postoperative period the number of correct answers was significantly ($p < 0.05$) reduced, to $89.7 \pm 0.4\%$. This trend remained in the late postoperative period (error rate was $90.7 \pm 0.5\%$, $p < 0.05$), and only in the remote postoperative period actual reaching the original level of attention and perception of information was registered (preoperative period – $91.8 \pm 0.3\%$, the remote one – $92.1 \pm 0.2\%$, $p > 0.05$).

Analysis of correct answers of patients with inflammatory diseases of the maxillofacial area, related to the ability to differentiate correlations between linear shapes and their elements that characterizes the level of complex patients' perception demonstrated that in the early postoperative period their number was significantly ($p < 0.05$) changed to $84.1 \pm 0.2\%$. This trend was traced in the late postoperative period (the level of correct answers is $84.9 \pm 0.3\%$, $p < 0.05$), and only in the remote postoperative period actual reaching the original level of complex information perception was registered (preoperative – $87.6 \pm 0.4\%$, the remote one – $86.5 \pm 1.1\%$, $p > 0.05$).

Error analysis of the patients with inflammatory diseases of the maxillofacial area to make particular conclusions characterized through the patients' ability to perceive smooth image changes figured out that in the early postoperative period the number of corresponding errors was significantly ($p < 0.05$) changed to $69.8 \pm 0.9\%$; then, in the late postoperative period (error rate – 71.2 ± 1.2 , $p > 0.05$) and remote postoperative period actual reaching the original level is registered (the preoperative period – $74.3 \pm 1.3\%$, the remote one – $72.4 \pm 0.7\%$, $p > 0.05$).

The ability of patients with inflammatory diseases of the maxillofacial area to make abstract conclusions was diagnosed by evaluating the patients' ability to assess complex changes in the graphic area of tests. It was characterized by significant changes ($p < 0.05$) in the number of corresponding errors to $26.3 \pm 2.1\%$ in the early postoperative period; then, in the late postoperative period (the level is $29.4 \pm 1.9\%$, $p > 0.05$); in the remote postoperative period actual reaching the original level is registered (preoperative period – 33.6 ± 1.6 , the remote one – 29.9 ± 2.6 , $p > 0.05$).

The study of analytical and synthetic mental activity was being performed considering the errors to make the highest form of abstraction and dynamic thinking. It was found out that in the early postoperative period the number of corresponding errors was significantly ($p < 0.05$) changed to $57.0 \pm 0.8\%$. This trend continues in the late postoperative period (error rate – $60.3 \pm 0.9\%$, $p < 0.05$). In the remote postoperative period actual reaching the original level is registered (preoperative period – $62.9 \pm 0.5\%$, the remote one – $62.0 \pm 1.1\%$, $p > 0.05$).

Analysis of results of studying attention and perception level on stages of the CM of patients with inflammatory diseases of the maxillofacial area found out that in the early postoperative period the number of correct answers was significantly ($p < 0.05$) increased to $80.0 \pm 0.4\%$. This trend continues in the late postoperative period (the level of correct answers is $81.1 \pm 0.6\%$, $p < 0.05$), and only in the remote postoperative period actual reaching the original level of attention and perception of simple information is registered (preoperative period – $82.1 \pm 0.2\%$, the remote one – $81.9 \pm 0.4\%$, $p > 0.05$).

Analysis of correct answers of patients with inflammatory diseases of the maxillofacial area, related to the ability to differentiate correlations between linear shapes and their elements characterizing the level of complex perception, found out that in the early postoperative period the number of correct answers was significantly ($p < 0.05$) reduced to $82.6 \pm 0.3\%$. This trend remained in the late postoperative period (the level of correct answers is $83.0 \pm 0.6\%$, $p < 0.05$). In the remote postoperative period actual reaching

the original level of complex perception of information was not registered (preoperative period – $86.9 \pm 0.4\%$, the remote one – $84.7 \pm 1.3\%$, $p > 0.05$).

Error analysis of patients with inflammatory diseases of the maxillofacial area to make particular conclusions characterized through the patients' ability to perceive smooth image changes figured out that in the early postoperative period the number of correct answers was significantly ($p < 0.05$) reduced to $67.7 \pm 0.7\%$; then, in the late postoperative period (69.7 ± 0.9 , $p > 0.05$) and remote postoperative period actual reaching the original level was registered (preoperative – $73.6 \pm 1.1\%$, the remote one – $70.3 \pm 1.1\%$, $p > 0.05$).

The ability of patients with inflammatory diseases of the maxillofacial area to draw abstract conclusions was diagnosed by evaluating the patients' ability to assess complex changes in the graphic area of tests. It was characterized by significant changes ($p < 0.05$) in the number of corresponding errors to $62.1 \pm 1.3\%$ in the early postoperative period and then, in the late postoperative period (the level was $29.4 \pm 1.9\%$, $p > 0.05$). The late postoperative period also recorded an actual increase of this level to $65.4 \pm 2.3\%$ with its reaching in the remote postoperative period (preoperative period – $68.8 \pm 1.1\%$, the remote one – $68.1 \pm 2.1\%$, $p > 0.05$).

The study of analytical and synthetic mental activity was performed considering the errors to make the highest form of abstraction and dynamic thinking. It was found out that in the early postoperative period the number of correct answers was significantly ($p < 0.05$) changed to $57.0 \pm 0.8\%$.

Conclusions. Patients with inflammatory diseases of the maxillofacial area, compared with ones with maxillofacial injuries, in the early postoperative period are characterized by a lower severity of cognitive dysfunction and almost complete restoration of the implementation level of basic cognitive functions, while as patients with maxillofacial injuries have significantly more expressive cognitive dysfunction with delayed restoration or even with keeping this dysfunction in the remote postoperative period. The results obtained define the features of personalized perioperative tactics for effective implementation of treatment and rehabilitation programs.

Prospectives for further research are related to the evaluation of the effectiveness of patient-centered approach and rehabilitation programs in the light of psychophysiological functions of patients with inflammatory diseases and injuries of the maxillofacial area.

References

1. Grigorov S.M. Pisljatravmatichni zmini central'noï gemodinamiki pri uskladnenomu perebigu poshkodzen' lic'ovogo cherepa / S.M. Grigorov, A.O. Grigorova, G.P. Ruzin // Stomatologija slavyanskikh gosudarstv: trudy VII Mezhdunarodnoj nauchno-prakticheskoy konferencii (31 oktjabrja 2014 g.) / Pod red. A.V. Cimbalistova, B.V. Trifonova, A.A. Kopytova. – Belgorod : ID «Belgorod» NIU «BelGU», 2014. – S. 95-98.
2. Grigorova A.O. Kliniko-patogenetichnij analiz reabilitacijnoï taktiki hirurga-stomatologa pri zapal'nih zahvorjuvannjah shhelepno-licevoï liljanki: problemni pitannja ta innovacijne udoskonalennja / A.O. Grigorova // Problemi ekologichnoï ta medichnoï genetiki i klinichnoï imunologii: Zbirnik naukovih prac'. – Kiïv-Lugans'k, 2014. – № 1 (121). – S. 186-193.
3. Grigorova A.O. Kliniko-patogenetichnij analiz reabilitacijnoï taktiki hirurga-stomatologa pri poshkodzhennjah shhelepno-licevoï liljanki: problemni pitannja ta innovacijne udoskonalennja / A.O.

Grigorova // Problemi ekologichnoï ta medichnoï genetiki i klinichnoï imunologii: Zbirnik naukovih prac'. - Kiïv-Lugans'k, 2014. – № 2 (122). – S. 186-193.

4. Grigorova A.O. Dooperacijna stratifikacija riziku patologiiï parodontu sered pacientiv z odontogennimi zapal'nimi zahvorjuvannjami shhelepno-licevoiï diljanki / A.O. Grigorova // Problemi ekologichnoï ta medichnoï genetiki i klinichnoï imunologii : Zb. naukovih prac'. - Kiïv-Lugans'k, 2014. – № 4 (124). – S. 209-217.

5. Grigorova A.O. Intensivnist' urazhennja kariesom ta uzagal'neni indeksi potrebi u likuvanni parodontu na etapah hirurgichnogo likuvannja zahvorjuvan' shhelepno-licevoiï diljanki / A.O. Grigorova // Visnik problem biologiiï i medicini. - 2014.– Vip. 4, T. 3 (115). – S. 320-323.

6. Grigorova A.O. Intensivnist' urazhennja kariesom ta uzagal'neni indeksi potrebi u likuvanni parodontu na etapah immobilizaciiï pri poshkodzhennjah shhelepno-licevoiï diljanki / A.O. Grigorova // Visnik problem biologiiï i medicini. - 2014. – Vip. 4, T. 4 (116). – S. 324-327.

7. Grigorova A.O. Obgruntuvannja ta zastosuvannja algoritmu nejro-stomatologichnoï stratifikaciiï pacientiv z poshkodzhennjami ta zapal'nimi zahvorjuvannjami shhelepno-licevoiï diljanki / A.O. Grigorova // Visnik problem biologiiï i medicini. - 2015. – Vip. 2, T. 2 (119). – S. 40-44.

8. Grigorova A.O. Reabilitacija pacientiv z poshkodzhennjami shhelepno-licevoiï diljanki: ocinka stanu tkanin parodontu / A.O. Grigorova // Naukovo-praktichna konferencija z mizhnarodnoju uchastju "Suchasni problemi narodnoiï i netradicijnoiï medicini"(16-17.10.2014 r.) - Kiïv, 2014. - S. 75-77.

9. Grigorova I.A. Primenenie afobazola v lechenii panicheskikh atak u bol'nyh s travmaticheskoiï bolezniï golovnogo mozga / I.A. Grigorova, N.A. Nekrasova, A.A. Grigorova // Mezhdunarodnyj medicinskij zhurnal. - 2007. - № 5. - S. 111-116.

10. Pat.92052, Ukraïna. MPK (2014.01): A61B 10/00. Sposib ocinki tipu mitohondrial'nogo bioenergetichnogo obminu bukal'nogo epiteliju // A.O. Grigorova (UA); L.V. Cherkashina (UA). – Harkivs'ka medichna akademija pisljadiplomnoiï osviti (UA). - Zajavka № u201403899; Zajavleno 06.03.2014.- Opublikovano 25.07.2014, Bjul. № 14/2014.

11. Pat.93265, Ukraïna. MPK (2014.01): A61B 5/00. Sposib nejro - stomatologichnoï stratifikaciiï pacientiv z poshkodzhennjami ta zapal'nimi zahvorjuvannjami shhelepno-licevoiï diljanki // A.O. Grigorova (UA). – Harivs'ka medichna akademija pisljadiplomnoiï osviti (UA). - Zajavka №u201402287; Zajavleno 14.04.2014. - Opublikovano 25.09.2014, Bjul. № 18/2014.

12. Shnajder N.A. Novyj vzgljad na problemu posleoperacionnoj kognitivnoj disfunkciiï / N.A. Shnajder // Ostrye i neotlozhnye sostojanija v praktike vracha. – 2006. – № 5. – S. 47–49.

13. Shnajder N.A. Postoperacionnaja kognitivnaja disfunkcija / N.A. Shnajder // Nevrol. zhurn. – 2005. – T. 10, № 4. – S. 37–43.

14. Shnajder N.A. Nevrologicheskie oslozhnenija obshhej anestezii. – Krasnojarsk : KrasGMA, 2004. – 383 s.

15. Rasmussen L.S. Does anesthesia cease postoperative cognitive dysfunction? A randomized study of regional versus general anesthesia in 438 elderly patients / L.S. Rasmussen, T. Jonson, H.M. Kuipers // Acta Anesth. Scand. – 2003. – Vol. 47, № 9. – P. 1188–1194.

EVALUATION OF BIOELECTRICAL ACTIVITY OF TEMPORAL AND PROPERTY MASTICATORY MUSCLES IN PATIENTS WITH DISTAL OCCLUSION COMPLICATED WITH TEETH CROWDING

Dmytrenko M.I.

Key words: distal bite, teeth crowding, electromyography, temporal muscle, masseters.

Distal bite and teeth crowding rank are the commonest conditions in the structure of orthodontic pathology. The aim of this research was to study the bioelectrical activity of the temporal and masticatory muscles, and to evaluate the electromyographic indices in patients with distal occlusion, complicated with crowding in permanent dentition. We determined the electrical activity of the temporal and the masticatory muscles prior orthodontic treatment in 11 patients aged 16 to 24 years, with distal occlusion, complicated by severe teeth crowding, severe, which made up the test group. The control group consisted of 10 patients with physiologic occlusion, whose average age was $21, 3 \pm 1, 25$ years. Results showed during the permanent dentition the functional state of the temporal and masticatory muscles changed in patients with distal occlusion, complicated with crowding. When teeth are closed, temporal muscle are more active by values of the ACTIV index, which is due to insufficient activity of the masticatory muscles ($ASTIV = -20, 73\% \pm 8, 01\%$). It is noteworthy that the functional muscle symmetry (SIM index TA / mm) at rest in distal occlusion is lower than that of individuals with normal occlusion ($p < 0,05$).

References

1. Dmytrenko M.I. Osoblivosti ortodontichnogo statusu ditej: vid zminnogo do postijnogo prikusu / M.I. Dmytrenko // Aktual'ni problemi suchasnoï medicini: Visnik Ukraïns'koï medichnoï stomatologichnoï akademii. – 2010. – T. 10, Vip. 3 (31). – С. 15–17.
2. Smagljuk L.V. Suchasni metodi likuvannja distal'noï okljuzii zubnih rjadiv. Pomilki ta uskladnennja : dis... d-ra med. nauk: 14.01.22 / L.V. Smagljuk ; VDNZU «UMSA». – Poltava, 2006. – 427 s.
3. Dmytrenko M.I. Obruntuvannja principiv diagnostiki i likuvannja pacientiv iz zuboshhelepniimi anomalijami, uskladnenimi skupchenistju zubiv : dis. ... d-ra. med. nauk : 14.01.22 / M.I. Dmytrenko ; VDNZU «UMSA» – Poltava, 2015. – 369 s.
4. Dmytrenko M.I. Chastota skupchenosti zubiv pri riznih vidah zuboshhelepniimi anomalij / M.I. Dmytrenko, L.D. Korovina // Aktual'ni problemi suchasnoï medicini: Visnik Ukraïns'koï medichnoï stomatologichnoï akademii. – 2014. – T. 14, Vip. 4 (48). – S. 5–7.
5. Drogomirec'ka M.S. Vazhlivist' elektromiografichnogo doslidzhennja zuboshhelepnoï sistemi na riznih etapah ortodontichnogo likuvannja / M.S. Drogomirec'ka, Ju.V. Grechn'ova // Novitni tehnologii v ortodontii : zb. nauk. pr. Pershogo ukraïns'kogo ortodontichnogo kongresa. – Kiïv, 2013. – S. 37–40.
6. Ferrario V.F. Electromyographic activity of human masticatory muscles in normal young people. Statistical evaluation of reference values for clinical applications / V.F. Ferrario, S. Sforza, A. Miani [et al.] // Oral. Rehabil. – 1993. – Vol. 20, N 3. – P. 271–280.
7. Smagljuk L.V. Stan bioelektrichnoï aktivnosti m'jaziv shhelepno-lic'ovoï diljanki pacientiv 6-9 rokiv iz patologijeju prikusu i spadkovim anamnezom / L.V. Smagljuk, G.V. Fetisova, Remali Anas // Problemi ekologii ta medicini. – 2011. – T. 15, № 3-4 (dodatok 1). – S. 145.

8. Krechina E.K. Vzaimosvjaz' mezhdru bioelektricheskoy aktivnost'ju myshc cheljustno-licevoj oblasti, postural'nym statusom i funkciej zhevaniya u pacientov s distal'noj okkluziej v period smeny zubov / E.K. Krechina, I.V. Pogabalo, M.V. Verzilova [i dr.] // Stomatologija. – 2013.– № 4.– S. 57–61.

COMPARATIVE CHARACTERISTICS OF CARIES AND ORAL HEALTH STATUS INDICES IN CHILDREN WHO OFTEN CATCH ACUTE RESPIRATORY VIRAL INFECTIONS

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Key words: dental caries, acute respiratory viral infection, prevalence, intensity, hygiene index.

Dental status depends on a number of factors, one of which is overall health. The objective was to study the prevalence and intensity of dental caries, oral health status of children, who often catch acute respiratory viral infections (ARVI). The study involved 80 children (20 children were assessed as healthy as they usually get ill with ARVI 1-2 times a year), and 60 children, who often suffer from ARVI (3-4 times a year)). They live in Poltava, Ukraine, their mean was 6 – 7 years. The analysis of the parameters studied showed the children who often suffer from ARVI, have a high prevalence and intensity of caries compared with practically healthy children. Values of hygienic index indicate better oral status in the healthy children. The results obtained encourage studying the peculiarities of dental caries in children, who often suffer from ARVI and developing therapeutic and prophylactic measures, aimed to improve the resistance of dental hard tissues.

References

1. Hevkaliuk N.O. Pokaznyky funktsionalnykh reaktsii epiteliotsytiv porozhnyny rota pry hostrii respiratorno-virusnii infektsii u ditei /N.O. Hevkaliuk// Svit medytsyny ta biolohii. – 2012. - № 4. – S. 7-10.
2. Dynamika pokaznykiv kariiesu tymchasovykh zubiv u ditei pry provedenni profilaktychnykh zakhodiv / [L.F. Kaskova, H.O. Akzhytova, O.E. Berezhna, L.I. Amosova] // Profilaktychna ta dytiacha stomatolohiia. - Lviv, 2013.- №1.- S.18-20.
3. Kaskova L.F. Aktyvnost karyesa vremennuh zubov y eho oslozhneniy u detei s faktoramy ryska / L.F. Kaskova, O.V. Sheshukova // Ukrainskyi stomatolohichnyi almanakh. – 2001.– №6.– S. 81 – 82.
4. Kaskova L.F. Hihienichnyi stan porozhnyny rota ta shvydkist slynovydilennia v ditei iz khronichnym kataralnym hinhivitom u period zminnoho prykusu / L.F. Kaskova, Ye.M. Novikov, S.Ch. Novikova // Visnyk problem stomatolohii ta medytsyny. – 2013. – T. 2, №3. – S. 320-323.
5. Kaskova L.F. Stan hihieny porozhnyny rota ta tkanyn parodontu u ditei iz zuboshchelepnyimi anomoliiamy v protsesi likuvannia znimnymi ortodontychnymi konstruktsiiamy / L.F. Kaskova, N.M. Taranenko // Visnyk stomatolohii. - 2004. - № 4. - S. 57-59.
6. Kaskova L.F. Stan hihieny porozhnyny rota u ditei z hrupy radiatsiinoho ryzyku / L.F. Kaskova // Ukrainskyi medychnyi almanakh. - 2000. - T. 3, № 5. - S. 88-90.
7. Kaskova L.F. Faktory ryzyku vynykennia kariiesu tymchasovykh zubiv / L.F. Kaskova, H.O. Akzhytova // Aktualni problemy suchasnoi medytsyny. – 2008. – T.8, №4, ch.1. – C. 28–29.
8. Kosenko K. N. Immunnui status y yntensyvnost karyesa u chasto boleiushchykh detei / K. N. Kosenko, S. V. Skul'skaia, O. V. Moroz / Visnyk stomatolohii. – 2001. – № 1. – S. 45–47.

9. Lukinuh L. M. Intensyvnost y rasprostranennost karyesa zubov y motyvatsyia k rehuliarnomu ukhodu za polostiu rta u detei / L. M. Lukinuh, S. Yu. Kosiuha // *Novoe v stomatolohyy*. – 2001. – № 5. – S. 73–76.
10. Rebrova O.Iu. Statystycheskyi analiz medytsynskykh dannuh. Prymenenye paketa prykladnykh prohramm STATISTICA / O.Iu. Rebrova. – M.: Medyasfera, 2002. – 312 s.
11. Smoliar N. I. Hihiena rotovoi porozhnyny v ditei doshkilnoho viku m.Lvova / N. I. Smoliar, I. S. Dubetska // *Ukrainskyi stomatolohichnyi almanakh*. – 2006. – № 5. – C. 32–34.
12. Spivpratsia pediatra i dytiachoho stomatoloha yak osnova efektyvnoi profilaktyky rannoho kariiesu molochnykh zubiv u ditei / [N. I. Smoliar, H.M. Solonko, I. S. Dubetska, E. V. Bezvushko] // *Materialy III(X) zizdu Asotsiatsii stomatolohiv Ukrainy*. – Poltava, 2008. – S. 109–110.
13. Udoskonalennia likuvannia khvorykh na hryp ta inshi HRVI / M. A. Andreichyn [ta in.] // *Infektsiini khvoroby*. - Ternopil:Ternopilskyi derzhavnyi medychnyi universytet.- 2013.- №2.- S.12-19.

LOGICAL CONSTRUCTS IN CARIOLOGY

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Key words: caries, cariogenic factors, logic.

This research paper describes an attempt to determine the appropriateness of the theory by Case using logical operations, According to this theory dental caries develops only when there is coincidence of the three conditions: cariogenic microflora, digestible carbohydrates and low resistance of enamel. By applying logical operations, such preconditions correspond to the conjunction (logical multiplication). Follow-up re-researches have added some details to the concept of cariogenic situation, including such factors as time. Logical formula of detailed utterance has also been represented by a conjunction. If we add a fifth factor, such as the regular use of fluoridated toothpaste, to the logical formula, the result of the operations show that only in the presence of these five factors tooth decay can develop. However, regular use of fluoridated toothpaste, as we know, produces an opposite effect. These judgments show that the accumulation of such elements in the logical construction can mislead in understanding of the phenomenon of caries. Correcting of other variables does not always indicate the presence of a direct connection between them.

References

1. Buleva algebra – [Elektronnyj resurs] – Rezhim dostupa: http://www.nvvc.ee/e-oppe/Sidorova/Buleva_algebra/.
2. Diagrammy Jejlera-Venna – [Elektronnyj resurs] – Rezhim dostupa: http://studopedia.net/1_5573_diagrammi-eylera-venna.html.
3. Zajcev A.V. Likuvannja neuskладnenogo kariiesu zubiv u hvorih starshih vikovyh grup z obmezhenomu ruhomistju oporno-ruhovogo aparatu z vikoristannjam atravmatichnoi vidnovnoi tehniki: dis. ... kand. med. nauk : 14.01.22 «Stomatologija» / A.V. Zajcev. – Poltava, 2012. – 140 s.
4. Zajcev A.V. O metodologii nauchnoj dejatel'nosti v stomatologii / A.V. Zajcev, A.V. Vacenko, A.K. Nikolishin, Vyzhenko E.E. // *Svit medicini ta biologii*. – 2014. – № 4 (46). – S. 193-197.

5. Zajcev A.V. Predstavlenie kariesa s pomoshh'ju diagramm Jejlera-Venna / A.V. Zajcev, O.N. Bojchenko, A.K. Nikolishin // Visnik problem biologii i medicini. – 2015. – Vip. 2, T. 1 (118). – S. 73-77.
6. Zajcev V.P., Sverdlov M.S. Ohrana truda v zhyvotnovodstve. – 2-e izd., pererab. i dop. – M. : Agropromizdat, 1989. – 368 s.
7. Krugi Jejlera — Vikipedija
https://ru.wikipedia.org/wiki/%CA%F0%F3%E3%E8_%DD%E9%EB%E5%F0%E0.
8. Lavrov A.A. Karies so «skrytym harakterom»: profilaktika i diagnostika / A.A. Lavrov // Stomatolog info. – 2009. – № 9. – S. 3-4..
9. Leus P.A. Kliniko-jeksperimental'noe issledovanie patogeneza, patogeneticheskoy i konservativnoy terapii i profilaktiki kariesa zubov : avtoref. dis. na soiskanie uch. stepeni doktora med. nauk: 14.00.21 «Stomatologija» / P.A. Leus. – M., 1977. – 30 s.
10. Peterson L.G. Matematika. 3 klass: v 3-h chastjah. Ch. 1 / L.G. Peterson — M. : Izdatel'stvo «Juventa», 2011. – 112 s.
11. Savichuk N. Sovremennye podhody preventivnoy terapii kariesa zubov / N. Savichuk, I. Trubko, L. Kornienko, O. Marchenko // DentArt. – 2013 – № 2. – S. 67-74.
12. Keyes P.H. Factors influencing the initiation, transmission and inhibition of dental caries / P.H. Keyes, H.V. Jordan // Mechanisms of hard tissue destruction / R.S. Harris. – NewYork: AcademicPress, 1963. – R. 261-283.

TREATMENT OF CHRONIC CATARRHAL GINGIVITIS IN CHILDREN AGED 12-15 WHO LIVE IN ENVIRONMENTALLY UNFAVOURABLE AND IODINE- AND FLUORIDE DEFICIENCY REGIONS

Malko N.V.

Key words: chronic catarrhal gingivitis, children, treatment complex, ecological situation.

To estimate the results of treatment of moderate chronic catarrhal gingivitis (CCG) the study designed in-volved groups of children aged 12 and 15 years, who live in ecologically polluted regions of Ukraine (Yavoriv and Zhydachiv, Lviv oblast). The main group (n=33) underwent the treatment designed according to the scheme we worked out. The children of control group (n=22 children) took generally accepted treatment scheme of CCG. The therapy scheme we designed included local medication, professional oral hygiene, conventional anti-inflammatory agents (tinctures of camomile, hypericum, calendula), topical application with “Holisal” gel; use of tooth-paste “Lacalut Active Herbal” and mouth rinse “Lacalut Active” with anti-inflammatory effect. The remedies “Kinder Biovital-gel” and “Ascorutinum” were used to boost immune system. Having compared the result obtained in two groups of children patients, we found the specially de-signed therapy we developed improved the condition of the periodontal tissues, oral health that was confirmed by the data of the index evaluation and by results of laboratory findings.

References

1. Bezvushko E.V. Osoblivosti formuvannja patologii tkanin parodonta u ditej, shho prozhivajut' u riznih ekologichnih umovah / E.V. Bezvushko // Visnik stomatologii. – 2008. – № 2. – S. 97-101.

2. 2. Buhanovs'ka T.M. Vpliv ekologičnih faktoriv na stan zborov'ja vipuskniv zagal'noosvitnih navchal'nih zakladiv promislovogo mista / T.M. Buhanovs'ka, S.V. Zbitneva // Shidnoevropejs'kij zhurnal gromads'kogo zborov'ja. – 2011. – № 1 (13). – S. 75–76.
3. Kovach I.V. Perspektivy primenenija bioprofilaktiki u detej s osnovnymi stomatologicheskimi zaborovanijami v sovremennyh uslovijah / I.V. Kovach, A.Ju. Makarevich // Stomatologija detskogo vozrasta i profilaktika. – 2011. – № 10. – S. 4-10.
3. Luchins'kij M.A. Stan tkanin parodonta u ditej, jaki prozhivajut' na teritorii zabrudnenij ingal'jacionimi ksenobiotikami / M.A. Luchins'kij, V.M. Luchins'kij, O.I. Ostapko // Praktichna medicina. – 2012. – № 6 (tom HUIII). – S. 19-22.
4. Njan'kovs'kij S.L. Stan zborov'ja shkoljariv v Ukraini / S.L. Njan'kovs'kij, M.S. Jacula, M. I. Chikajlo, I.V. Pasechnjuk // Zborov'e rebenka. – 2012. – № 5 (40). – S.109-114.
5. Panchishin N.Ja. Zahvorjuvanist' ditjachogo naselennja Ukraini ta chinniki, jaki vplivajut' na zborov'ja ditej / N.Ja. Panchishin, V.L. Smirnova, O.Ja. Galic'ka-Harhalis // Aktual'ni pitannja pediatrii, akusherstva ta ginekologii. – 2011. – № 2. – S. 131-132.
6. Savichuk N.O. Sovremennye podhody k pervichnoj profilaktike zaborovanij tkanej parodonta u detej / N.O. Savichuk // Sovremennaja stomatologija. – 2008. – №3. – S. 53-57.
7. Smoljar N.I. Stomatologichna zahvorjuvanist' ditej, jaki zhivut' u riznih za ekologichnoju situacieju miscevestjah / N.I. Smoljar, E.V. Bezvushko // Vstup do medichnoï geologii / za red. : G.I. Rud'ka, O.M. Adamenka. – K., 2010. – T .1. – S.286-295.
8. Homenko L.O. Energokorekcija v kompleksnij profilaktici hronichnogo kataral'nogo gingivitu u ditej, jaki meshkajut' v ekologichno nesprijatlivih umovah / L.O. Homenko, O.I. Ostapko, N.A. Kolesova // Klinichna medicina. – 2010. – № 1. – S. 164-167.
9. A randomized 12-week study to compare the gingivitis and plaque reduction benefits of a rotation-oscillation power toothbrush and a sonic power toothbrush / C.R. Goyal, J. Qaqish, T.He, J. Grender [etal.] // J. Clin. Dent. – 2009. – Vol. 20, № 3. – P. 93-98.
10. Alawi M.A. Concentrations of some heavy metals (Cd, Cu, Pb, Se and Sn) in human teeth at different ages and the correlation to caries / M.A. Alawi, A. Abusbaih // JJC. – 2010. – Vol. 5, № 2. – P. 191-199.

AGE-RELATED CHANGES OF PRO- AND ANTIOXIDANT SYSTEM UNDER ENDOGENOUS INTOXICATION IN PATIENTS WITH ORAL INFLAMMATORY DISEASES AND CONCOMITANT GASTRODUODENITIS

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Key words: oral mucosa, gastroduodenitis, antioxidant system.

Pathological processes of the gastrointestinal tract often lead to the development of oral inflammatory diseases. We founded that excessive activation of free radical lipid oxidation and discoordination of antioxi-dant protective system in patients of 60 years and older promotes more frequent recurrence of oral inflam-matory diseases. High values of endogenous intoxication in patients with oral inflammatory

diseases and concomitant gastroduodenitis showed the stress of the immune system defence and failure in elimination systems, especially in aged patients.

References

1. Borisenko A.V. Vpliv zahvorjuvan' parodonta na zagal'nij stan organizmu / A.V. Borisenko // Zdorov'ja suspil'stva. - 2013. - № 1. - S. 32-37.
2. Silenko Ju.I. Rol' vil'noradikal'nih, gemokoaguljujuchih ta imunnih mehanizmiv u patogenezi generalizovanogo parodontitu / Ju.I. Silenko, R.M. Stupnic'kij // Ukraïns'kij stomatologichnij al'manah. - 2011. - № 1. - S. 79-80.
3. Bulkina N.V. Modern aspects of inflammatory periodontal disease. Etiology, and pathogenesis. Features of refractory periodontitis. Clinical manifestations. / N.V. Bulkina, V.M. Morgunova // Scientific Journal Fundamental Research. - 2012. - Vol. 2. - P. 415-420.
4. Weidlich P. Association between periodontal diseases and systemic diseases / P. Weidlich, R. Cimoës, C.M. Panutti [et al.] // J. Braz. Oral. Res. - 2008. - Vol. 22, Suppl. 1.- P. 32-43.

ADHESIVE MATERIAL DESIGNED TO IMPROVE REMOVABLE DENTURE FIXATION: COMPARATIVE ANALYSIS OF ITS QUALITY AND ITS QUALIMETRIC EVALUATION

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Key words: adhesive material, adaptation, qualimetric indicator, removable dentures.

The need in complete removable dentures among aged population of Ukraine is still growing. Our study registered 57.5 people (77.35 dentures) with dentures among 1000 individuals examined. Adontia was already registered in the age group of 45-49, making up $6,3 \pm 0,67\%$ cases per 100 individuals examined. Thus, the number of jaws with complete absence teeth and poor anatomical-topographic conditions of prosthetic plate reached 87.1% of their total number (15.1% of the upper and 72.0% of the lower jaws). The total lack of teeth causes psychological, personality changes, deteriorates social tolerance, changing nutrition. The concept of orthopaedic treatment for older people with removable constructions should include different types of teeth replacement. To date, there are no perfect methods of orthopaedic and prosthetic correction which would guarantee perfect denture fixation edentulous lower jaw, especially in cases of sudden atrophy on various changes of the oral mucosa. Using adhesive means significantly increases the efficiency of fixation and stabilization of complete plastic dentures in poor anatomical-topographic conditions of the masticatory apparatus. Currently, on the market of dental materials in Ukraine there are a lot of adhesive materials for dentures, but most of them are overseas and relatively expensive for the older people; adhesive materials are available in the form of powders, creams, gels and fixing strips.

The aim of this study was to study advisability of clinical application of available adhesive materials and to clear up their physical and mechanical properties according to the requirements ISO-10873: 2010 and to carry out qualimetric evaluation of the materials.

Comparative analysis of the quality of adhesive materials for improving fixation of removable dentures, chewing efficiency, and reducing the period of adaptation involved the following materials: "Stomafix" JSC "Stoma" (Kharkov, Ukraine), «Corega» («Stafford Miller", Ireland), and «Lacalut» («Arkam GmbH", Germany), which provides ISO-10873: 2010: consistence, tensile strength, solubility, adhesion with plastic, metal adhesion, viscosity relative.

All the materials meet the requirements of ISO-10873: 2010 and substantially ($p \leq 0,05$) do not differ by themselves. Thus, the investigated materials are characterized by a slight reserve compared to the indicative index.

Tensile strength of the samples exceeds the relevant indicative value of ISO-10873: 2010 to $(50 \div 60) \%$, except material «Lacalut», which as we know can reduce the quality of adhesion and influence the timing of its clinical use.

Solubility of adhesive materials is characterized by the largest ($p \leq 0,001$) for material «Lacalut» - $(41,5 \pm 0,9) \text{ mm / h}$, while materials "Stomafix» - $(35,8 \pm 0,6) \text{ mm / h}$ and «Corega» - $(35,5 \pm 0,8) \text{ mm / h}$ in this property does not exceed desirable index, and at the same time is significantly lower than for the material «Lacalut».

According the indicators ISO-10873: 2010, tensile strength, solubility, adhesion with plastic, metal adhesion, viscosity relative adhesive material "Stomafix" JSC "Stoma" (Kharkov, Ukraine) exceeds the indicative value of foreign analogues «Corega» («Stafford Miller", Ireland) and «Lacalut» («Arkam GmbH", Germany), the expense of what there is increasing chewing pressure and reduce the period of adaptation of patients to of complete dentures. Research data allow recommending "Stomafix" JSC "Stoma" (Kharkov, Ukraine) in clinical prosthodontics.

References

1. Golik V.P. Sravnitel'naja klinicheskaja ocenka adgezivnogo krema „STOMAFIKS” / V.P. Golik, I.V. Janishen, V.G. Tomilin [i dr.] // Ukraïns'kij medichnij al'manah. – 2009. – T. 12, № 1. – S. 49-52.
2. Lebedenko I.Ju. Rukovodstvo po ortopedicheskoy stomatologii. Protezirovanie pri polnoj potere zubov / I.Ju. Lebedenko, Je.S. Kalivradzhijan, T.I. Ibragimova. – Moskva, 2005. – 397 s.
3. Leont'ev V.K. Social'naja stomatologija na sovremennom jetape / V.K. Leont'ev, Ju.V. Shilenko // Stomatologija. - 1999. - S. 5-11.
4. Marchenko I.I. Vlijanie plotnosti mjagkogo sloja bazisa s#emnogo proteza polnogo zubnogo rjada na tverdye i mjagkie tkani cheljustej : dis.... kand. med. nauk : spec. 14.00.21 «Stomatologija» / I.I. Marchenko. - Voronezh, 2005. – 136 s.
5. Rozhko M.M. Dovidnik z ortopedichnoï stomatologii / M.M. Rozhko, T.M. Mihajlenko, V.S. Onishhenko. - Kiïv, 2004. – 290 s.
6. Rozhko M.M. Ortopedichna stomatologija / M.M. Rozhko, V.P. Nesprjad'ko. - Kiïv, 2003. – 584 s.
7. Trezubov V.N. Ortopedicheskaja stomatologija. Propedevtika i osnovy chastnogo kursa / V.N. Trezubov, A.S. Shherbakov, L.M. Mishnev. - Sankt-Peterburg, 2003. – 480 s.
8. Jakovlev O.G. Stomatologicheskie mediko-social'nye aspekty rehabilitacii pozhilyh / O.G. Jakovlev, V.D. Arhipov, S.F. Vetkova [i dr.] // Sbornik statej i tezisov, dokladov i lekcij III Mezhdunarodnogo seminara po voprosam pozhilyh «Samarskie lekciï», 1998. - S.165-166.

COMPREHENSIVE ANALYSIS AND DESCRIPTION OF DENTOFACIAL PATHOLOGIES IN PATIENTS WITH TEMPOROMANDIBULAR DISORDERS

PART 2. ANALYSIS OF DENTOFACIAL COMPLEX OF PATIENTS BY DIAGNOSTIC PECULIARITIES

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Key words: muscle and joint dysfunction, pathology of dentofacial complex.

The study is based on examination of 175 patients including 76 men (43,4%) and 99 women (56,6%) aged 13 to 80 who sought medical advice or were referred for examination and treatment of suspected temporomandibular disorders. Myofascial pathology of masticatory muscles, neck muscles and shoulder muscles was diagnosed in 44 patients including 11 men (25, 0%) and 33 women (75, 0%) that indicated a pre-dominance of women with this pathology over men as much as three times. Masticatory muscles were involved in the pathological process in 43 patients (97,7%), neck muscles in 27 patients (61,3%), the muscles of the shoulders in 7 patients (15,8%) including them in various combinations. All patients in this group were identified with various occlusive pathologies in different combinations with predominance of orthodontic pathology in 24 patients (54,4%), pathological eruption of third molars (mostly lower ones) in 9 patients (20,3%), secondary deformation of dentition in 6 patients (13,6%), and iatrogenic diseases in 4 patients (8,8%). Joint disorders (arthropathies) were found in 47 patients, including the 24 men (51,1%) and 23 women (48,9%) being almost even; with the prevalence in displacement of TMJ meniscus in 33 patients (70,2%); compression of retrodiscal (bilaminar) zone was found in 6 patients (12,8%), arthrosis in 5 patients (10,6%), hypermobility in 3 patients (6,3%), arthritis in 2 patients (4,2%). All patients had significant changes in dentofacial system, namely multiple defects of dentition were revealed in 16 patients (34,0%), often with the loss of a fixed vertical dimension of occlusion, secondary deformations - 9 patients (19,2%), six patients with orthodontic disorders, making up 12,8% of each pathology. A significant percentage fell to the share of the patients with periodontitis of first and second degree (21 patients, 44,6%) and these pathologies were found in various combinations. The group of patients with comorbidity of temporomandibular disorders (myo-fascial pathology + arthropathy) included 23 patients (including 7 men (30,7%) and 16 women (69,6%)) that were characterized by 100% involvement of masticatory muscles in the pathology, 69,6% of neck muscles and only 4,3% of the muscles of the shoulders. Displacement of the meniscus (18 patients, 78,2%) and compression of bilaminar zone (8 patients, 34,6%) significantly prevailed among articular disorders. Abnormal occlusion was represented by various nosological forms with predominance in orthodontic pathology (10 patients – 43,4%), abnormal eruption of third molars (7 patients – 30,3%), and iatrogenic pathology (6 patients – 26,0%). Such nosological forms of pathologies as "iatrogenic", "missing teeth" and "periodontitis of the first and second degree" were diagnosed in the group only in three patients respectively. A separate group consisted of 54 patients who sought medical advice or were referred for examination of suspected temporomandibular disorders whose diagnosis was not confirmed in the result of clinical and instrumental examination, but they needed complete restorative reconstruction of occlusal relationships with previous re-structuring of myotatic reflex. Such nosological forms as multiple defects of dentition (30 patients – 55,5%), periodontitis of the first and second degree (37 patients – 68,4%) and pathological attrition (11 patients - 20,3%) in various combinations significantly predominated among occlusive pathologies in this group.

References

1. Bida V.I. Ortopedichne likuvannja hvorih iz okljuzijno-artikulacijnim sindromom disfunkcij skronevo-nizhn'oshhelepnogo sugloba / V.I. Bida, S.M. Kljuchan // Ukraïns'kij stomatologichnij al'manah. – 2012. - № 3. – S. 21-23.
2. Kordijak A.Ju. Projavi skronevo-nizhn'oshhelepnoï disfunkcij pri zastosuvanni sucil'nolitim zubnih proteziv / A.Ju. Kordijak, R.V. Kulichenko // Ukraïns'kij stomatologichnij al'manah. – 2002. - № 5. – S. 43-46.
3. Korol' M.D. Funkcional'no-nevrologicheskie simptomy so storony visochno-nizhnecheljustnyh sustavov pri narushenii okkluzii posle plombirovanija i restavracii zubov: materialy nauchn.-prakt. konf. «Social'nye aspekty sovremennoj Rossijskoj stomatologii: opyt, problemy, puti reshenija» / M.D. Korol', O.V. Rybakov, O.I. Jacenko. – Tver', 2011. – S. 120–121.
4. Makeev V.F. Osoblivosti rozpodilu silovih navantazhen' na suglobovi golovki nizhn'oi shhelepi pid dieju zhuval'nogo navantazhennja v model'nomu eksperimenti / V.F. Makeev, V.Ja. Shibins'kij // Novini stomatologii. – 2007. - № 2. – S. 40-47.
5. Makeev V.F. Okljuzijno-artikulacijna koncepcija rozvitku sindromu m'jazovo-suglobovoï disfunkcij v pacientiv z patologijeju okljuzii / V.F. Makeev, Ju.O. Ribert, Ju.O. Kinash // Ukraïns'kij stomatologichnij al'manah. – 2014. - № 4. – S. 70–75.
6. Manfredini D. Visochno-nizhnecheljustnye rasstrojstva. Sovremennye koncepcii diagnostiki i lechenija / D. Manfredini; [per. s angl. A. Ostrovskij i dr.]. – Nauchn. red. M. Antonik i dr. – (London, Berlin, Chicago, Tokyo, Barselona, Istanbul, Milan, Moscow, New Delhi, Paris, Prague, Fao Paulo, Seoul, Warsaw // Guintessence, 2013. – 500 p.). – M., Spb, Kiev, Almaaty, Vil'njus : izdatel'skij dom «Azbuka». – 2013. – 500 s.
7. Moskalenko P.L. Stomatologicheskaja manipulacija – odna iz prichin razvitija anatomo-funkcional'nyh narushenij komponentov visochno-nizhnecheljustnogo sustava / P.A. Moskalenko, O.I. Jacenko, O.V. Rybalov // Visnik stomatologii. – 2008. - № 1. – S. 151-152.
8. Nesprjad'ko V.P. Suglobovij faktor pri ortodontichnomu likuvanni: materiali mizhnar. konf. «Aktual'ni problemi ortodontii» / V.P. Nesprjad'ko, M.S. Drogomerec'ka, Ju.V. Klitins'kij. – L'viv : DOOO, 2010. – S. 48-50.
9. Novikov V.M. Koreljacijni zv'jazki mizh m'jazovo-suglobovoju disfunkcieju SNShhS ta okljuzijnimi porushennjami pri riznih vidah prikusiv / V.M. Novikov, Ju.S. Lun'kova // Problemi ekologii ta medicini. – 2011. - № 15 (3-4). – S. 120–122.
10. Ribalov O.V. Viniknennja nestabil'nosti SNShhS pid chas ortodontichnogo likuvannja zubo-shhelepni anomalij / O.V. Ribalov, L.V. Smagljuk // Ukraïns'kij stomatologichnij al'manah. – 2005. - № 3. – S. 68-70.
11. Shejko A.P. Vzaemozv'jazok okljuzijnih porushen' i sindromu bol'ovoï disfunkcij / A.P. Shejko // Ukraïns'kij stomatologichnij al'manah. – 2012. - № 2. – S. 124.
12. Dental occlusion and subjective temporomandibular joint symptoms in men and women / D. Gesch, O. Bernhardt, F. Mack [et al.] // Results of the Study of Health in Pomerania. Schweiz Monatsschr Zahnmed. – 2004. – Vol. 114, № 6. – R. 573-580.
13. Dodic S. The relationship of occlusal disharmonies and symptoms of temporomandibular disorders / S. Dodic, D. Stanisic-Sinobad, M. Vukadinovic // Srp. Arh. Celok. Lek. – 2006. – Vol. 134, № 9. – P. 380-385.

14. Garino F. The role of mandibular repositioning splint in the orthodontic treatment of patients with TMJ dysfunction / F. Garino // Prog. Orthod. – 2004. – Vol. 5, № 1. – P. 44-53.
15. Okeson J.P. Management of Temporomandibular Disorders and occlusion / J.P. Okeson. – St. Louis, Missouri: Mosby, 2003. – 671 p.
16. Akhter R. The relationship between jaw injury, third molar removal, and orthodontic treatment and TMD symptoms in university students in Japan Text. / R. Akhter, N.M. Hassan, R. Ohkubo [et al.] // J. Orofac. Pain. – 2008. – Vol. 22, № 1. – P. 50-56.

COMPARATIVE EVALUATION OF QUANTITATIVE INDICATORS OF LYSOZYME AND IMMUNOGLOBULIN UNDER DIFFERENT APPROACHES IN TREATMENT OF CHRONIC DESTRUCTIVE APICAL PERIODONTITIS

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Key words: chronic destructive apical periodontitis, local immunity, immunoglobulin, lysozyme.

Local immunity of the oral cavity is determined by secretory immunoglobulin A, which prevents the attachment and penetration of bacteria and viruses through the epithelium, linking pathogens that enter the biological fluids and neutralizes viruses penetrated inside epithelial cells. And lysozyme is an enzyme that plays a leading role in natural nonspecific immunity.

The aim of the study was to carry out comparative evaluation of the state of local immunity under different methods of treatment of chronic destructive apical periodontitis.

The study involved 62 patients (33 men and 29 women) with chronic destructive apical periodontitis, who were divided into two groups. Patients of the first group (19 persons) got treatment of apical periodontitis by conventional methods. The main group consisted of 42 patients were divided into two subgroups (2a and 2b), who got treated apical periodontitis by the methods we improved. The treatment of subgroup 2a was based on the traditional scheme with the additional processing of the root canal for deep fluoridation. The subgroup 2b got treatment developed according to the scheme of the first sub-group with the additional ul-trasonic agitation of siler directly in the root canal.

All patients were identified by indicators of secretory immunoglobulin A (Ig A) and lysozyme (before treatment and one week after treatment).

It has been established all the three method used for the treatment of chronic destructive apical periodontitis lead to a significant ($p < 0.05$) reduction and normalization of local immunity of the oral cavity in 7 days af-ter the treatment (slgA content is reduced by an average 2.3-3.0 times; and lysozyme by 1.4-1.9 times).

Analysis of significant correlations between the studied parameters of local immunity showed the existence of links in the group 2a, which are not found in the first group, and a group of 2b, which may indicate less effective treatment option for chronic destructive periodontitis only with deep fluoridation.

The most effective treatment of chronic destructive apical periodontitis is provided by the method using deep fluoridation of the root canal and ultrasonic agitation of sealer directly in the root canal that is confirmed by the results of correlation analysis.

References

1. Berezin K.A. Immunologicheskie aspekty zabolevanij apikal'nogo periodontita / K.A. Berezin // Fundamental'nye issledovanija. - 2014. - № 10-8. - S. 1609-1611.
2. Burjagina N.V. Sostojanie mukozal'nogo immuniteta polosti rta pri hronicheskom apikal'nom periodontite / N.V. Burjagina, K.I. Proshhaev, V.I. Bessarabov // Rossijskij stomatologicheskij zhurnal. - 2014. - № 2. - S. 30-31.
3. Buharin O.V. Lizocim i ego rol' v biologii i medicine / O.V. Buharin, N.V. Vasil'ev. - Tomsk : Izd-vo Tomskogo universiteta, 1974. - 209 s.
4. Grigor'ev I.V. Rol' biohimicheskogo issledovanija sljuny v diagnostike zabolevanij / I.V. Grigor'ev, A.A. Chirkin // Klinicheskaja laboratornaja diagnostika. - 1998. - № 6. - S. 18-20.
5. Zubok D.I. Kliniko-morfologicheskie osobennosti periapikal'nyh destruktivnyh processov / D.I. Zubok, A.I. Danilenko // Visnik stomatologii. - 2001. - № 4. - S. 32-34.
6. Kostrikin D.S. Instrukcija po primeneniju nabora reagentov dlja immunofermentnogo opredelenija sekretornogo IgA v biologicheskikh zhidkostjah «sekretornyj IgA-IFA / D.S. Kostrikin. - Rezhim dostupu xema-medica.com/eng/sets/kardio/K276.pdf?PROTECT=mlwupuha. - 16 s.
7. Misnik A.V. Sostojanie mestnogo immuniteta polosti rta u pacientov s hronicheskim destruktivnym periodontitom do i posle jendodonticheskogo lechenija / A.V. Misnik // Institut stomatologii. - 2008. - № 4. - S. 46-47.
8. Mitronin A.V. Kliniko-immunologicheskaja karakteristika destruktivnyh form hronicheskogo periodontita / A.V. Mitronin, G.G. Robustova, Ju.M. Maksimovskij [i dr.] // Rossijskij stomatologicheskij zhurnal. - 2005. - № 1. - S. 29-34.
9. Prijma N.V. Patomorfologichna karakteristika zmin v periapikal'nih tkaninah pri hronichnomu periodontiti / N.V. Prijma // Aktual'ni problemi suchasnoï medicini. Visnik VDNZU «Ukraïns'ka medichna stomatologichna akademija». - T. 13, Vip. 4 (44). - S. 161-164.
10. Timofeev A.A. Rukovodstvo po cheljjustno-licevoj hirurgii i hirurgicheskoy stomatologii / A.A. Timofeev. - Kiev : Chervona Ruta-Turs, 2012. - 1048 s.
11. Abdul Latiff A.H. The clinical significance of immunoglobulin A deficiency / A. H. Abdul Latiff, M. A. Kerr // Ann. Clin. Biochem. - 2007. - Vol. 44. - P. 131-139.
12. Gomes B.P. Microbiological examination of infected dental root canals / B.P. Gomes, E.T. Pinheiro, C.R. Gade-Neto // Oral Microbiol Immunol. - 2004. - Vol. 19, № 2. - P. 71-76.

THE INFLUENCE OF EXTRACTION ON ORAL AND MAXILLOFACIAL TISSUE UNDER SKELETAL MALOCCLUSIONS OF CLASS I

Sanich Kiymet Bayram gizi

Key words: skeletal malocclusion 1 class, cephalometric radiographs, oral and maxillofacial tissue.

The aim of our study is to evaluate the effect of tooth extraction in skeletal Class I malocclusions on dentofacial tissues. We evaluated the pre-treatment and post-treatment cephalometric radiographs of Class I

patients whose four first premolars with ANB angle between 0- 4° in the upper and lower jaw were treated by the extraction and without extraction. The study included 35 subjects aged 12 – 25 years (mean age 15.03), who got continuing orthodontic correction, 16 of whose had had four premolars extracted. The values of pre-treatment and post-treatment assessments in extraction and non-extraction groups were similar. The group with tooth extracted experienced no changes in vertical facial dimensions. The group with no tooth extracted demonstrated an increase in anterior facial height (ANS-Me). In the group with tooth extracted, lower incisors, lower and upper lips were in retrusion condition. In the group without tooth extraction, lower teeth were protruded, and no change was observed in the upper and lower lips. Facial and nasolabial angles demonstrated no changes in the groups.

References

1. Basciftci F.A. Effects of extraction and nonextraction treatment on Class I and Class II subjects / F.A. Basciftci, S. Usumez // *Angle Orthod.* – 2003. Vol. 73. – P. 36-42.
2. Bowman S.J. Treatment timing: Orthodontics in four dimensions. Much ADO about facial esthetics / S.J. Bowman, L.E. Johnston // *Craniofacial Growth Series.* – 2001. – Vol. 39. – P. 199-217.
3. Germeç D. Effects of extraction and nonextraction therapy with air-rotor stripping on facial esthetics in postadolescent borderline patients / D. Germeç, T.U. Taner // *Am. J. Orthod. Dentofacial. Orthop.* - 2008. – Vol. 133 (4). – P. 539-549.
4. Kocadereli I. Changes in soft tissue profile after orthodontic treatment with and without extractions / I. Kocadereli // *Am. J. Orthod. Dentofacial. Orthop.* – 2002. – Vol. 122. – P. 67-72.
5. Paquette D.E. A long-term comparison of nonextraction and premolar extraction edgewise therapy in —borderline Class II patients / D.E. Paquette, J.R. Beattie, L.E. Johnston // *Am. J. Orthod. Dentofac. Orthop.* – 1992. – Vol. 102. – P. 1-14.
6. Shearn B.N. An occlusal and cephalometric analysis of lower first and second premolar extraction effects / B.N. Shearn, M.G. Woods // *Am. J. Orthod. Dentofacial. Orthop.* – 2000. – Vol. 117. – P. 351-361.
7. Staggars J.A. Vertical changes following first premolar extractions / J.A. Staggars // *Am. J. Orthod. Dentofacial. Orthop.* – 1994. – Vol. 105. – P. 19-24.
8. Tweed C.H. Indications for the extraction of teeth in orthodontic procedure / C.H. Tweed // *Am. J. Orthod.* – 1944. – Vol. 20. – P. 405-428.

RISK FACTORS FOR CARIES OCCURRENCE IN OVERWEIGHT ADOLESCENTS

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Key words: European oral health indicators, dental caries, behavioural habits of children, excess of body weight.

The problem of overweight and obese people, especially children and adolescents, is global, especially in economically developed countries. In the UK 9.4% of children aged 5 years and 19.1% of children aged 12 years are overweight. Many scientists have reported a higher incidence of dental caries in overweight

chil-dren, which leads to the deep and comprehensive study of this problem. The main thing that is obvious and demonstrative, points out that eating sugar (sugary foods) is a risk for being overweight, as well as for dental caries. This explains several studies showing that children who are overweight are more prone to caries disease. Aim: To assess a relevance of the European oral health indicators in evaluation of dental caries risk factors in children with the excess of body weight. Methods: The analytical dental epidemiology, using the EGOHID-2005 system. Two age groups of school children 12 – and 15-year-old were surveyed in Lvov city. Results: Dental caries prevalence among children in both age groups with excessive body weight was 1.5 – 2 times more vs children with normal weight. The major factors which could make a negative effect on dental health were non-observance frequency of recommended toothbrushing, use of fluoride-free toothpastes and everyday eating of sweet food. Conclusion: The EGOHID–2005 system was highly relevant in assessing the schoolchildren behavioural problems with excess of body weight.

References

1. Bezvushko Je.V. Porazhaemost' kariesom zubov u detej s izbytochnoj massoj tela / Je.V. Bezvushko, V.L. Kostura // V kn. «Stomatologija detskogo vozrasta i profilaktika stomatologicheskikh zabolevanij». Materialy IV Rossijsko-Evropejskogo kongressa po detskoj stomatologii, 28-30 sentjabrja 2015 g. - MGMSU, Moskva. – 2015. - S. 10-13.
2. Smoljar N.I. Sanacija polosti rta u detej s otjagoshhennym somaticheskim anamnezom / N. I. Smoljar, G. M. Solon'ko // Novosti stomatologi. - 2012. – № 4. – S. 16–20.
3. Hamitova N.H. Izuchenie sostojanija zubo-cheljustnoj sistemy u detej s narushenijami fizicheskogo razvitiya, prozhivajushhih v sel'skoj mestnosti / N.H. Hamitova // V kn. «Stomatologija detskogo vozrasta i profilaktika stomatologicheskikh zabolevanij» - Sbornik trudov II Rossijskogo regional'nogo kongressa Mezhdunarodnoj asociacii detskoj stomatologii (IAPD), 29.09-01.10.2014 g., Moskva. – MGMSU.– 2014. - S. 171 - 173.
4. Aykut Yetkiner A. Association between body mass index and dental caries / A. Aykut Yetkiner, I. Uzel [et al.] // USB of Abstracts, IADR/PER Congress 2014. - Journal of Dental Research. – 2014. - Vol. 93, Special Issue C, Abstract 0480.
5. Chopra A. Body mass index and dental caries in children: a systemic review and meta-analysis / A. Chopra [et al.] // International Dental Journal. – 2014. – Vol. 64. – FDI 2014 Abstracts. FC60.
6. De Jong-Lenters M. The association between BMI and dental caries in 5- to 8-year-old children / M. De Jong-Lenters, P. van Dommelen [et al.] // EAPD. A Passion for Paediatric Dentistry – 12th Congress of the European Academy of Paediatric Dentistry, 5-8 June 2014, Sopot, Poland. – Abstract # 08.11. – P. 50.
7. Duijster D. Oral health, body weight and growth in children from Cambodia, Indonesia and Lao / D. Duijster, S. Susilawati [et al.] // 20th European Association of Dental Public Health Conference, 17-19 September 2015, Istanbul, Turkey. – Abstract # 3089.
8. Hayden C. Obesity and dental caries in children / C. Hayden, J. Bowler [et al.] // Community Dentistry and Oral Epidemiology. - 2013. – Vol. 41. – P. 289–308.
9. Hooley M. The relationship between childhood weight, dental caries and eating practices in children aged 4-8 years in Australia, 2004-2008 / M. Hooley, H. Skouteris, L. Millar // Pediatr Obes. – 2012. – Vol. 7. – P. 461–70.

10. Kantovitz K. Obesity and dental caries - A systematic review / K. Kantovitz, F.M. Pascon [et al.] // Oral Heal Prev. Dent. – 2006. – Vol. 4. – P. 137–44.
11. Kay E.J. Is there a relationship between birthweight and subsequent growth on the development of dental caries at 5 years of age? A cohort study / E.J. Kay // Community Dent Oral Epidemiol. – 2010. – Vol. 38. - P. 408–414.
12. Lempert S.M. Association between body mass index and caries among children and adolescents / S.M. Lempert // Community Dent Oral Epidemiol. – 2014. - Vol. 42. – P. 53–60.
13. Moynihan P.J. Effect on Caries of Restricting Sugars Intake / P.J. Moynihan, S.A.M. Kelly // J. Dent. Res. – 2014. - Vol. 93. – P. 8–18.
14. Silva A.E.R., Menezes A.M.B. Obesity and dental caries / A.E.R. Silva, A.M.B. Menezes // Rev. Saude Publica. – 2013. - Vol. 47. - P. 799–812.

INDEX ASSESSMENT OF ORAL HYGIENE, PERIODONTAL STATUS AND NATURE OF THE PERIPHERAL CIRCULATION IN LOCALIZED DAMAGES OF PERIODONTAL COMPLEX IN ADOLESCENTS

Kholodnjak O.V.

Key words: periodontal disease, oral hygiene, periodontal status microcirculation.

The prevalence of inflammatory periodontal diseases is growing, especially in adolescents. Hygienic oral health is one of the important elements of overall health, and inflammation in the periodontal tissues is accompanied by marked changes in the microcirculatory. Therefore, determining the status of oral hygiene and character of disorders in peripheral circulation in the tissues during the development of lesions localized in periodontal complex and the possibility of correction is of great medical and prognostic significance.

Objective: to conduct evaluation index of oral hygiene and periodontal status and the nature of the peripheral circulation in localized lesions of periodontal complex in adolescents.

Materials and methods. The study included 76 patients with localized inflammatory periodontal lesions (34 patients with chronic catarrhal gingivitis and 42 with chronic localized periodontitis, and initial severity) and 40 healthy individuals of the control group. The oral hygiene index was determined by Green-Vermilion and Silness-Loe, the state of periodontal tissues was evaluated by the PMA and Ri indices, microcirculation system was assessed by the index of peripheral blood.

Results. There is dependence between oral hygiene and the nature of periodontal tissues damage and dental plaque intensity. A gradual decrease in microvascular blood supply with the peripheral blood (76,8% → 62,9% → 46,6%) indicates worsening of peripheral circulation in the periodontal tissues by increasing the severity of localized lesions of periodontal tissues.

References

1. Antonenko M.Ju. Novye vozmozhnosti povyshenija jeffektivnosti gigienicheskikh meroprijatij v kompleksnoj profilaktike stomatologicheskikh zabolevanij u lic molodogo vozrasta / M.Ju. Antonenko, L.F. Sidel'nikova, M.O. Dudnikova // *Sovremennaja stomatologija*. — 2011. — № 3. — S. 95–98.
2. Generalizovaniy parodontit / [T.D. Zabolotnij, A.V. Borisenko, A.V. Markov ta in.]. — L'viv : GalDent, 2011. — 240 s.
3. Godovana O.I. Zahvorjuvannja parodontu (gingivit, parodontit, parodontoz) : navchal'nij posibnik / O.I. Godovana. - L'viv-Ternopil' : Dzhura, 2009. - 200 s.
4. Zabolotnij T.D. Zapal'ni zahvorjuvannja parodonta / T.D. Zabolotnij, A.V. Borisenko, T.I. Pupin. — L'viv : GalDent, 2013. — 206 s.
5. Mashhenko I.S. Bolezni parodonta / I.S. Mashhenko. — Dnepropetrovsk : Kolo, 2003. — 272 s.
6. Rebrova O.Ju. Statisticheskij analiz medicinskih dannyh. Primenenie paketa programm Statistica / O.Ju. Rebrova. — M. : MediaSfera, 2002. — 312 s.
7. Terapevtichna stomatologija. Zahvorjuvannja parodonta / [M.F. Danilevs'kij, A.V. Borisenko, A.M. Politun ta in.]. — T. 3. — K. : Medicina, 2008. — 614 s.
8. Chumakova Ju.G. Rol' miscevih chinnikiv porozhnini rota u rozvitku parodontitu / Ju.G. Chumakova // *Implantologija, parodontologija, osteologija*. — 2008. - № 3. — S. 70-75.
9. Fundamental of periodontics / edited by T.G. Wilson, J.K. Kornman. — 2-nd ed. — 2003. - 659 p.
10. Ripetska O. Diseases of the Periodontium, Etiology. Pathogenesis. Diagnosis. Treatment [Teht] / [O. Ripetska, I. Deneha, V. Hrynovets et al.]. — Lviv : Liga-Press, 2004. — 174 p.

CLINICAL AND PREVENTIVE MEDICINE

EVALUATION OF LIFE QUALITY IN CHILDREN WITH ADENOID VEGETATIONS WITH LIKERT SCALE

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Key words: children, adenoid vegetation, quality of life, Likert scale.

We surveyed 300 children with adenoid diagnosis and their parents with Likert scale. This scale includes twenty questions for kids and ten questions for parents. Beside of adenoid vegetation 21 children were diag-nosed to have otitis media, 8 ones had chronic otitis media, 28 kids had sinusitis and 98 children had chronic tonsillitis. 145 children were established to have adenoid hypertrophy. According to data obtained, the pa-tients with exudative and chronic otitis media more often complained such symptoms such as ear fullness, hearing loss and tinnitus. The patients with sinusitis scored high points such symptoms as rhinorrhea, smell-ing disturbance, nasal fullness. The patients with chronic tonsillitis scored high points the symptoms snoring, sleep apnoe, respiratory disturbance. The majority of the patients, 145 kids, scored higher points related to malocclusion, disturbance of facial skeleton, memory and attention. Generally, the parents and kids as-sessed the quality of their life nearly identically. Children scored their quality of life with $67,2 \pm 4,2$ score points (maximum -100 points), but parents scored $33 \pm 2,9$ score points (maximum-50 point). Thus, adenoid vegetation significantly decreases the quality of life in children.

References

1. Albaum G. The Likert scale revisited: an alternate version / G. Albaum // Journal of the Market Research Society. - 1997. – Vol. 39 (2). – P. 331-348.
2. Allen I.E. Likert scales and data analyses. / I.E. Allen, C.A. Seaman // Quality Progress. - 2007. - T. 40, № 7. - P. 64-65.
3. De Civita M. Evaluating health-related quality-of-life studies in paediatric populations / M. DeCivita, D. Regier, A.H. Alamgir [et al.] // Pharmacoeconomics. - 2005. – Vol. 23 (7). – P. 659-685.
4. Gliem J.A. Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales / J.A. Gliem, R.R. Gliem // Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education. - 2003. – P. 82-88.
5. Lee J.W. Cultural differences in responses to a Likert scale / J.W. Lee [et al.] // Research in nursing & health. - 2002. - T. 25, №. 4. - P. 295-306.
6. Marcus C.L. A Randomized Trial of Adenotonsillectomy for Childhood Sleep Apnea / C.L. Marcus [et al.] // New England Journal of Medicine, published online. - 2013, May 21. – Rezhim dostupu <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3756808/>.
7. Marcus C.L. Diagnosis and management of childhood obstructive sleep apnea syndrome / C.L. Marcus, L.J. Brooks, S.D. Ward [et al.] // Pediatrics. – 2012. – Vol. 130 (3). – P. 714-755.
8. McLaughlin C.V. Health-related quality of life and depressive symptoms in children with suspected sleep-dis-ordered breathing / C.V. McLaughlin, J.W. Varni, D. Gozal // Sleep. – 2004. – Vol. 27 (6). - P. 1131-1138.
9. Tuncer U. Chronic rhinosinusitis and adenoid hypertrophy in children / U. Tuncer [et al.] // American journal of otolaryngology. - 2004. – Vol.. 25, №. 1. - P. 5-10.

VAGINAL MICROBIOCENOSIS IN PREGNANT WOMEN UNDER ASSOCIATION OF HIV AND HERPES VIRUS INFECTION

Anoshina T.M.

Key words: pregnancy, HIV, herpes virus, vaginal microbiocenosis, vaginal dysbiosis.

The imbalance of vaginal microflora in obstetric practice leads to various obstetric and perinatal complications. Objective: Assessment of vaginal microbiocenosis in pregnant women under the association of HIV and herpes virus infections (HVI). Material and methods. The study involved 200 pregnant women with HIV: Group 1 included 50 women with HIV infected with herpes simplex virus type 2; group 2 was made of 50 women with HIV and CMV, group 3 involved 50 women with HIV infected with both herpes simplex virus type 2 and CMV, group 4 included 50 women with HIV without HVI. The control group involved 50 pregnant women having no HIV and other infectious diseases, and no severe somatic pathology. The study included microscopy of vaginal flora, bacteriological analysis, the pH identification, amine test, clinical examination. Results and discussion. Findings showed the inhibition of the dominant microflora and colonization by obli-gate species of opportunistic organisms, mainly *Staphylococcus epidermidis* with

hemolysis, Corino bacteria, gardnerella, fungi of the genus Candida, Chlamydia, Mycoplasma and ureoplazma.

Most patients of the test groups were observed to have bacterial contamination of the vagina, mainly of associative character. Among HIV-positive pregnant women, especially in association with HVI, there was significantly smaller proportion of women with vaginal normal biocenosis (14.0% in mixed HVI against 28.0% - HIV-infected patients without HVI, $p < 0,05$). More than half of HIV-infected women were diagnosed to have HVI or severe vaginal dysbiosis. Almost half (46.0%) of women with HIV and HVI vagina had expressed dys-biosis, which was significantly higher than the proportion of women of the control group, and group 4 (16.0 and 24.0%, respectively, $p < 0,05$). Conclusions. Disturbances of vaginal microbiota are regarded as an additional negative factor for the development of obstetric and perinatal complications in HIV-infected pregnant women infected with HVI that requires adequate correction.

References

1. King C.C. The Role of Co-Infections in Mother-to-Child Transmission of HIV / C.C. King, S.R. Ellington, A.P.Kourtis // Current HIV Research. – 2013. - № 11. - P.10-23.
2. Lysenko A.Ja., Tur'janov M.H., Lavdovskaja M.V. i dr. VICH-infekcija i SPID-associiruemye zabolevanija. - M.: TOO «Rarog#», 1996. - 624 s.
3. Vorob'ev A.A. Disbakteriozy - aktual'naja problema medicyny / A.A. Vorob'ev, N.A. Abramov, V.M. Bondarenko, B.A. Tenderov // Vestnik Rossijskoj AMN. - 2007. - № 3. - S. 4-7.
4. Biancone L. Resident bacterial flora and immune system / L. Biancone, I. Monteleone, G. Del Vecchio Blanco et al. // Dig. Liver. Dis. - 2012. - Vol. 34, Suppl. 2. - P. 37-43.
5. Bobrina V.I. Sovremennoe predstavlenie o processah intranatal'noj kontaminacii / V.I.Bobrina // Problemy jendokrinologii. - 2009. - T.11. - S. 54-57.
6. Abramova V.S. Fiziologicheskie pokazateli mikrobiocenoza organizma beremennoj / V.S. Abramova, A.S. Konnikov // Voprosy ohrany materinstva i detstva. – 2006. - № 7. - S. 50-52.
7. Savchenko T.N. Vzaimosvjaz' mikrobiocenoza slizistyh genital'nogo i pishhevaritel'nogo traktov u zhenshhin s nevynashivaniem beremennosti / T.N. Savchenko, A.Z.Hashukoeva, S.V.Kamoeva i dr. // Lechenie i profilaktika. - 2013. - № 2. - S.36-42.
8. Preims Mc.Dowl Effect of pathological processes of colonization of the fetus from pregnant with genital infection / Preims Mc.Dowl // In. Progr. Brain Res. - 2009. -Vol. 10. - R. 211-216.

LATERAL VENTRICULAR MENINGIOMA

Bagriy M.M., Danylyshyn I.Ye., Zakalyk M.S., Bogdan I.S., Ivanov S.V.

Key words: intraventricular meningioma, diagnosis, pathomorphology.

Intraventricular meningioma is a quite rare disease and makes up 0,5-4,5% of meningiomas. Most often they are found in the area of the triangle lateral ventricles, they constitute up to 55-68%. The source of the formation and growth of intraventricular meningiomas are cells of stroma of ventricular vascular plexus which develops in ontogeny of pia mater. The aim was to conduct clinical and morphological

analysis of the case fibroblastic meningioma of the right lateral ventricle of the brain of a 55 year old woman, which is accompanied with obturation of Monroe aperture and right-lateral ventricular enlargement, and right-lateral ventricular enlargement. The diagnosis was verified in a year after the onset of the disease by magnetic resonance imaging of the brain with contrast. In case of intraventricular meningioma, the severity of clinical manifestations mainly depends on the proximity of the tumor to the Monroe aperture, which occlusion determines the development of intracranial hypertension. Intraventricular meningiomas are benign in most cases and resistant to radiation and chemotherapy, therefore the main approach in their treatment is surgical removal.

References

1. Tjan V.K. Vnutrizheludochkovaja meningioma / V.K. Tjan, A.E. Zhalbagaev, T.K. Muhanov [i dr.] // Vestnik Kazahskogo nacional'nogo medicinskogo universiteta. – 2014. – №4. – S. 216-219.
2. Kariev M.H. Hirurgicheskij dostup k vnutrizheludochkovym meningiomam golovnog mozga / M.H. Kariev, R.A. Alimov, D.R. Alimov // Ukraïns'kij nejrohirurgichnij zhurnal. – 2007. – №3. – S. 77-78.
3. Kondratjuk V.V. Ekspresija bilka Ki-67 u klitinah mnozhinnih meningiom / V.V. Kondratjuk, M.S. Kvasha, G.A. Hmel'ova // Onkologija. – 2006. – T.8, №4. – S. 334-337.
4. Dmitrenko V.V. Nadzvichajno visokij vmist mRNK IGF-II-asocijovanogo bilka v meningiomah / V.V. Dmitrenko, T.V. Bukreeva, K.O. Shostak [ta in.] // Ukraïns'kij biohimichnij zhurnal. – 2007. – T. 79, №2. – S. 55-61.
5. Mahmudov U.B. Pervichnaja meningioma IV zheludochka / U.B. Mahmudov, A.A. Shelesko, S.V. Tanjashin [i dr.] // Voprosy nejrohirurgii imeni N.N. Burdenko. – 2003. – №2. – S. 26-28.
6. Konovalov A.N. Problema meningiom: analiz 80-letnego materiala Instituta nejrohirurgii im. N.N. Burdenko i perspektivy / A.N. Konovalov, A.V. Kozlov, V.A. Cherekaev [i dr.] // Voprosy nejrohirurgii. – 2013. – №1. – S. 12-23.
7. Shebzuhova L.M. Diagnostika meningiom bokovyh i tret'ego zheludochkov golovnog mozga / L.M. Shebzuhova, V.P. Bersnev // Zhurnal nevrologii i psihiatrii. – 2007. – №11. – S. 7-11.

THE CHARACTER OF BACTERIURIA AND ITS SENSITIVITY TO ANTIBIOTICS IN PATIENTS WITH BENIGN PROSTATIC HYPERPLASIA (BPH) IN PREOPERATIVE PERIOD

Bachurin G.V.

Key words: bacteriuria, antibiotics, benign prostatic hyperplasia.

The presence of persistent infection in the urinary tract (UTI) is the predictor of complications almost certainly appearing in the postoperative period. That is why it is important in the preoperative period not only to examine the function of organs and systems in elderly patients (the main contingent of BPH patients), but also to determine the presence of UTI by urine culture.

The analysis of findings obtained by having examined and after having treated 170 men with BPH showed that the various types of infection were found in 124 patients (72,9%). Its character was the following: monoinfection was revealed in 90 patients (72,6%), various combinations were diagnosed in

34 patients (27,4%). Having analyzed the sensitivity of each individual group of infections to antibiotics we noticed some difference in their affecting microflora as the only cause in contrast to the mixed infection. As for the specific particular infection, we can recommend the following antibiotics: gentamicin, gatifloxacin, ceftriaxone, imipenem. Tigecycline, doxycycline, imipenem were successfully used against *Streptococcus pneumoniae*. To fight *E. coli* we mostly used vancomycin, linezolid, chloramphenicol, doxycycline. The same drugs can be used in to fight mixed infections in the presence of *E. coli*.

References

1. Beloval A.N. Arterial'naja gipertenzija i dobrokachestvennaja giperplazija predstatel'noj zhelezy: fokus na al'fa-adrenoblokatory / A.N. Beloval, V.N. Lesovoj, I.I. Knjaz'kova // *Medicinskie aspekty zdorov'ja muzhchiny*. – 2014. – № 3 (14). – S. 56-65.
2. Kaprin A.D. Lechenie vozrastnogo androgenogo deficita u pacientov s dobrokachestvennoj giperplaziej predstatel'noj zhelezy / A.D. Kaprin, A.A. Kostin, I.V. Vinogradov, Je.L. Magamadov // *Urologija*. –2015. – №1. – S. 79-82.
3. Kogan M.I. Nesteril'nost' mochi zdorovogo cheloveka – novaja paradigma v medicine / M.I. Kogan, Ju.L. Naboka, H.S. Ibimev., I.A. Gudina // *Urologija*. –2014. – № 2. – S. 48-52.
4. Kuznecov V.V. Profilaktika pisljaoperacijnih infekcijno-zapal'nih uskladnen' u hvorih na dobrojakisnu giperplaziju peredmihurovoi zalozi : avtoref. dis. Na zdobuttja naukovogo stupenja kand. med nauk : spec. 14.01.06 «Urologija» / V.V. Kuznecov – Kiïv, 2015. – 18 s.
5. Pasechnikov S.P. Inficirovannost' vzbuditeljami zabolevanij, peredajushhij'sja polovym putem, i ee vlijanie na techenie i rezul'taty hirurgicheskogo lechenija dobrokachestvennoj giperplazii predstatel'noj zhelezy / S.P. Pasechnikov, N.V. Mitchenko, V.S. Gricaj, A.S. Glebov, // *Urologija*. – 2013. – №2 (65). – S. 97-98.
6. Pasechnikov S.P. Zbudniki, infekcii, shho peredajut'sja statevim shljahom, jak chinniki hronichnogo prostatitu u hvorih na DGPZ / S.P. Pasechnikov, V.S. Gricaj, A.S. Glebov, S.V. Nagleda // *Medicinskie aspekty zdorov'ja muzhchiny*. – 2015. – №2 (17). – S. 5-13.

APPLYING PRINCIPLES OF LOGISTICS AS BASIS TO IMPROVE INFORMATION AND ANALYTICAL SYSTEM OF HEALTHCARE

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Key words: management, information, logistics, health care.

Achieving the goals in order to meet the needs of the population in high-quality health care is a priority for improving the information security management. To realize the ability in continuing collection of qualitative information, it is necessary to design an information system that integrates the various processes taking place in various medical institutions and providing medical care of various complications. The aim of this study is to determine the key positions in terms of the main approaches to information management in healthcare using the principles of logistics and analytical support of the health system. To achieve this goal we use the method of system analysis of information and analytical health system and the method of

analytical model-ing, in particular, the search for an optimal model of information management in the healthcare system. We proposed the model of the field information security and information management by applying the principles of logistics that resulted in a new vision of management, including the information management. By reducing internal interaction between participants of the transfer, collection, processing and consumption of information through the implementation of overall information space it is possible to improve the flow of information needed to solve specific management tasks.

References

1. Belikova I.V. Rol' statistichnoï informacii v procesi upravlinnja v galuzi ohoroni zdorov'ja / I.V.Belikova, L.A.Rudenko / Aktual'ni problemi suchasnoï medicini: Visnik Ukraïns'koï medichnoï stomatologichnoï akademii. –2011. – Tom 11, vipusk 3 (35). – S. 56-58.
2. Zhavoronkov E.P. Logisticheskij menedzhment v zdavoohranenii : ucheb. posobie / E.P. Zhavoronkov. – Novosibirsk : Sibmedizdat NGMU, 2009. – 128 s.
3. Pro podal'she vdoskonalennja sluzhbi medichnoï statistiki sistemi MOZ Ukraïni: Nakaz MOZ Ukraïni №592 vid 2.12.2004 [Elektronnij resurs] – Rezhim dostupu: <http://zakon4.rada.gov.ua>
4. Pro osnovni zasadi rozvitku informacijnogo suspil'stva v Ukraïni na 32007-2015 roki: Zakon Ukraïni vid 9.01.2007, №537-V [Elektronnij resurs] – Rezhim dostupu: <http://zakon4.rada.gov.ua>
5. Kal'chenko A. G. Logistika: Pidruchnik. - K.: KNEU, 2003. - 284 s.
6. Pro shvalennja Koncepcii novoï sistemi ohoroni zdorov'ja: Proekt rozporjadzhennja Kabinetu Ministriv Ukraïni [Elektronnij resurs] – Rezhim dostupu: <http://www.moz.gov.ua> .

COMPARATIVE ANALYSIS OF ALCOHOL FACTOR INFLUENCE UPON INCIDENCE OF VIOLENT AND NON-VIOLENT DEATHS IN RESIDENTS OF KYIV FOR 2001-2010

Biliakov A.M.

Key words: sudden death, violent death, alcohol intoxication.

Forensic medical examination is a branch of medicine, where investigations of the cases of violent and non-violent death are concentrated. These cases are investigated with view of finding out the cause of death, their incidence, relation to risk factors and environmental influence. Alcohol consumption is quite wide-spread in our society and, consequently, it influences social organization significantly, including the cases of violent and non-violent death.

In this connection it was necessary to study the incidence of violent and non-violent death in the residents of Kyiv with regard to the degree of alcohol intoxication for the purpose of improving the preventive activity of health-care institutions and law-enforcement bodies in order to reduce the number of deaths in the population.

The research objective was to study the influence of alcohol factor on incidence of violent and non-violent death in young men and women in Kyiv, who died or were killed in 2001-2010, taking into consideration the season in order to find out some elements of medical and social importance.

The object of the research was medical documentation of the Kyiv City Clinical Bureau of Forensic Medical Examination that contained the results of investigating dead bodies of the residents of Kyiv before the age of 30, who had been in the state of alcohol intoxication and had died because of violent or non-violent death in 2001-2010. Total number of autopsy results investigated was 3828. Thereafter their comparative analysis was carried out.

The results of the comparative analysis of alcohol factor influence upon incidence of violent and non-violent deaths in the residents of Kyiv before the age of 30 showed that within the period from 2001 to 2010 this rate changed depending on the time of the year. In men regardless of the season some fluctuations could be observed in the percentage of persons, who had been in the state of alcohol intoxication at the moment of violent death, in relation to those who had had non-violent death. Alcohol factor prevailed both in non-violent and violent deaths with the tendency for the latter to predominate in the total number of years with the ratio 60% to 40%. In women a considerable increase of this percentage, from 3% to 66%, was observed in winter for all period studied, and in other seasons the fluctuations were registered and were similar to those in men.

This dependence can be used with view of improving the preventive activity of health-care institutions and law-enforcement bodies in order to reduce the number of deaths among the population.

References

1. Biljakov A.M. Raptova smert' naselennja, jak marker zdorovogo sposobu zhittja / A.M. Biljakov // Materiali vseukraïns'koï naukovo-praktichnoï konferencii z mizhnarodnoju uchastju «Naprijamki realizacii evropejs'koï strategii zdorov'ja 2020 v Ukraïni». - Poltava 29-30 travnja 2014. – S. 16-17.
2. Biljakov A.M. Analiz vipadkiv nasil'nic'koï smerti na foni alkogol'noï intoksikacii osib vikom 30-60 rokiv z urahuvannjam poro roku za materialami Kiïvs'kogo mis'kogo klinichnogo bjuro sudovo-medichnoï ekspertizi za 2001-2005 roki / A.M. Biljakov, I.A. Fedotova // Visnik problem biologii i medicini. – 2014. – Vip. 4, T. 2. – S. 350-353.
3. Viter V.I. Sudebno-medicinskie aspekty skoropostizhnoj smerti / V.I. Viter, A.V. Permjakov. – Izhevsk, 2000. – 120 s.
4. Viter V.I. Sudebno-medicinskie problemy alkogol'noj intoksikacii v sovremennyh uslovijah / V.I. Viter, A.V. Permjakov // Sovremennye voprosy sudebnoj mediciny i jekspertnoj praktiki. - 1996. - Vyp. 8. - S. 23-28.
5. Mal'cev S.V. Skoropostizhnaja smert' sredi lic s diagnostirovannoju ishemicheskoju bolezn'ju serdca / S.V. Mal'cev // Mat. VI Vseross. s#ezda sudebnyh medikov. - M. - Tjumen', 2005. — C. 190.

CARDIOVASCULAR RISK IN PATIENTS WITH OBSTRUCTIVE SYNDROME

Bondarenko L.V.

Key words: cardiovascular risk, bronchial obstruction.

The aim of the research was to study diagnostic and prognostic value of some factors of cardiovascular risk in patients with obstructive abnormalities of the respiratory system.

Materials and methods. The primary information to provide this research was the results of the complex clinical and anamnestic study of 120 patients with obstructive syndrome (62 with reversible obstruction and 58 with irreversible obstruction with concomitant chronic obstructive pulmonary disease (COPD) aged 38 ± 60 . The control group involved 120 was formed by the method of paired combination. Dynamics of the forced expiration volume, forced pulmonary capacity and their correlations were analyzed to receive the evaluation of external respiration function. Measurements were carried on by the pneumonometer MS-22 (Microprocessor pneumonometer Controlled, Hungary). The research was performed according to the standard programme of collection, accumulation and analysis of data.

Results and their discussion. By the comparative analysis we determined the frequency of smoking ($p < 0,001$) was higher in patients with chronic obstructive pulmonary disease than among patients of the control group (accordingly $93,3 \pm 2,3\%$ and $65,0 \pm 4,4\%$). Thus, such patients' division defined patients with chronic obstructive pulmonary disease who smoked more than 10 years (control group – $70,5\%$, test group – $91,9\%$), and more significant ($p < 0,001$) and informative factor ($I = 5,047$) was «smoker's index».

So, among the patients with chronic obstructive pulmonary disease the prevalence of people who smoked heavily ($IK > 110$ packs/years) significantly exceeded the index of the control group ($77,6 \pm 3,2\%$ and $16,7 \pm 3,5\%$ respectively, $p < 0,001$). The analysis of smoking intensity (general number of cigarettes per day) showed the patients of the control group and patients with chronic obstructive pulmonary disease differ only according to their intensity, who smoke more than 15 cigarettes per day (control – $24,1 \pm 4,8\%$; patients – $42,0 \pm 4,7\%$, $p < 0,004$) and a number of people who smoke less than 5 cigarettes per day (control – $22,8 \pm 4,7\%$; patients – $9,8 \pm 2,8\%$, $p < 0,004$).

The most informative clinical and anamnestic factor was the presence of current pneumonia in the anamnesis, the frequency of which was 4 times higher among the patients with chronic obstructive pulmonary disease, than in people of the control group (accordingly $56,7 \pm 4,5\%$ and $13,3 \pm 3,1\%$, $p < 0,001$).

Due to the comparative analysis of biological and clinical indices we revealed significantly less number of overweight people among the patients with chronic obstructive pulmonary disease in comparison with patients of the control group (accordingly $21,8 \pm 3,9\%$ and $7,5 \pm 2,4\%$, $p < 0,05$). Besides comparative clinical and anthropometric analysis we revealed that among the patients with chronic obstructive pulmonary disease there were significantly more people with disharmonic decreased fat component of the body weight (control – $55,8 \pm 5,7\%$; patients – $79,2 \pm 3,9\%$, $p < 0,05$), that was caused by the frequency of disharmonic component of bone tissue (control – $33,3 \pm 5,3\%$; patients – $68,9 \pm 4,5\%$, $p < 0,001$) and also in lower degree muscular components (control – $40,3 \pm 5,6\%$; patients – $57,6 \pm 4,8\%$, $p < 0,05$).

Conclusions. The fact of smoking as a criterion to determine the level of cardiovascular risk in patients with chronic obstructive pulmonary disease is informative when included the index of duration and intensity of smoking that can increase the accuracy of the evaluation. To determine the level of cardiovascular risk in patients with obstructive abnormalities, clinical peculiarities of comorbid condition should be considered such conventional indices as height and weight index (body mass index) (index Kettle), waist measurement, and Kettle index of waist / hip correlation; while indices information of disharmonious body weight is highly accurate, that requires further researches. Table algorithm was established to evaluate cardiovascular risk in patients with bronchial obstruction due to the traditional score ranging, index of duration and intensity of smoking, clinical and anthropometric peculiarities with comorbid condition.

Prospects for further research are connected with the research of metabolic peculiarities especially lipid profile of patients with obstructive abnormalities and development of diagnostic and therapeutic approaches in order to reduce the level of the cardiovascular risk among such patients.

References

1. Bolokadze E.A. Jetiologija, patogeneza i diagnostika hronicheskogo obstruktivnogo zabojevanija legkih na sovremennom jetape / E.A. Bolokadze // Mezhdunarodnyj medicinskij zhurnal. - 2014. - № 1. - S. 35-39.
2. Bondarenko L.V. Biomarkery sistemnogo vospalenija u pacientov s hronicheskim obstruktivnym zabojevanijem l'jogkih / L.V. Bondarenko // Zbirnik materialiv mizhnarodnoї naukovo-praktichnoї konferenciji «Prioritetni naprjamki u medicini: vid teoriji do praktiki» (Odesa, 18-19.09.2015r.). – Odesa : Pivdenna fundacija medicini, 2015. - S. 28-33.
3. Bondarenko L.V. Kardiovaskuljarnij rizik ta hronichne obstruktivne zahvorjuvannja legeniv: lipidnij profil' i rivni aterogennosti v respiratornih grupah pacientiv / L.V. Bondarenko // Mizhnarodna naukovo-praktichna konferencija «Fundamental'ni nauki - praktichnij medicini: morfofunkcional'ni metodi doslidzhennja ontogenetichnih peretvoren', fiziologichnih ta metabolichnih procesiv» (30.09-01.10.2015r., Ivano-Frankivs'k). - Ivano-Frankivs'kij derzhavnij medichnij universitet, 2015. - S.17-20.
4. Bondarenko L.V. Kardiovaskuljarnij rizik ta hronichne obstruktivne zahvorjuvannja legeniv: kliniko-anamnestichnij analiz dejakih spil'nih faktoriv / L.V. Bondarenko // VIII Naukovo-praktichna konferencija «Aktual'ni pitannja patologiji za umov dii nadzvichajnih faktoriv na organizm» // DVNZ «Ternopil's'kij derzhavnij medichnij universitet imeni I.Ja. Gorbachevs'kogo» (01-02.2015r.). - Ternopil', 2015. - S. 12-13.
5. Bondarenko L.V. Osoblivosti ocinki kardiovaskuljarnogo riziku na etapah formuvannja ta rozvitku hronichnogo obstruktivnogo zahvorjuvannja legeniv / L.V. Bondarenko // Programa naukovo-praktichnoї konferenciji «Aktual'ni pitannja komorbidnosti pri zahvorjuvannjah organiv dihannja» (1-2.10.2015r., Chernivci). – Chernivci : Bukovins'kij derzhavnij medichnij universitet, 2015. - S. 3.
6. Bondarenko L.V. Ocenka vzajmosvjazi mezhdju dopolnitel'nym kardiovaskuljarnym riskom i tjazhest'ju hronicheskogo obstruktivnogo zabojevanija l'jogkih / L.V. Bondarenko // Mizhnarodna naukovo-praktichna konferencija «Medichni nauki: istorija rozvitku, suchasnij stan ta perspektivi doslidzhen'» (25-26.09.2015r.). – L'viv : L'vivs'ka medichna spil'nota, 2015. - S. 10-13.
7. Gashinova K.Ju. Sistemni projavi ta komorbidnist' u ambulatornih pacientiv z HOZL / K. Ju. Gashinova // Ukraїns'kij pul'monologichnij zhurnal. - 2013. - № 2. - S. 41-45.
8. Gorbas' I.M. Shkala SCORE u klinichnij praktici: perevagi j obmezhennja / I.M. Gorbas' // Zdorov'ja Ukraїni. - 2008.- № 11 (1). - S. 40-41.
9. Gubler E.V. Vychislitel'nye metody analiza i raspoznavanie patologicheskikh processov / E.V. Gubler. – Leningrad : Medicina, 1978. - 274 s.
10. Karoli N.A. Komorbidnost' pri hronicheskoi obstruktivnoi bolezni legkih / N.A. Karoli, E. E. Orlova, A. V. Markov // Terapevticheskij arhiv. - 2008. - № 3. - S. 20-23.
11. Mostovij Ju.M. Hronichne obstruktivne zahvorjuvannja legen' ta sercevo - sudinni zahvorjuvannja: suchasnij pogljad na problemu / Ju.M. Mostovij, L.V. Rasputina // Zdorov'ja Ukraїni. - 2010. - № 2. - S. 12-13.

12. Rasputina L.V. Komorbidnist' nespecifichnih zahvorjuvan' organiv dihannja ta sercevo-sudinnoï sistemi v praktici likarja / L.V. Rasputina // Ukraïns'kij pul'monologichnij zhurnal. - 2011. - № 4. - S. 25–27.
13. Feshhenko Ju.I. Hronichne obstruktivne zahvorjuvannja legen': etiologija, patogeneza, klasifikacija, diagnostika, terapija (nacional'na ugoda) / Ju.I. Feshhenko // Ukraïns'kij pul'monologichnij zhurnal. - 2013. - № 3. - S. 7-12.
14. Jachnik A.I. Hronichne obstruktivne zahvorjuvannja legen' ta ishemichna hvoroba sercja: paraleli i perehrestja komorbidnosti / A.I. Jachnik, A.S. Svincik'kij, S.V. Shuper // Ukraïns'kij pul'monologichnij zhurnal. - 2014. - № 3. - S. 38-42.
15. Pat. № 66300, UA, MPK A61B 5/00. /Harkivs'ka medichna akademija pisljadiplomnoï osviti, Tereshhenko A.O., Shkljar A.S., Barchan G.S., Shkljar S.P.- Z. № u201108103; zajavl. 29.06.2011; opubl. 26.12.2011. Sposib ocinki zhirovoï komponenti tila z urahuvannjam somatotipu ljudini.
16. Pat. № 66942, UA, MPK A61B 5/00. /Harkivs'ka medichna akademija pisljadiplomnoï osviti, Tereshhenko A.O., Shkljar A.S., Barchan G.S., Shkljar S.P.- Z. № u201108106; zajavl. 29.06.2011; opubl. 25.01.2012. Sposib ocinki kistkovoï komponenti tila z urahuvannjam somatotipu ljudini.
17. Pat. № 66943, UA, MPK A61B 5/00. /Harkivs'ka medichna akademija pisljadiplomnoï osviti, Tereshhenko A.O., Shkljar A.S., Barchan G.S., Shkljar S.P.- Z. № u201108108; zajavl. 29.06.2011; opubl. 25.01.2012. Sposib ocinki m'jazovoï komponenti tila z urahuvannjam somatotipu ljudini.
18. Mullerova H. Cardiovascular comorbidity in chronic obstructive pulmonary disease: systematic literature review / H. Mullerova, A. Agusti, S. Erqou // Chest. - 2013. - № 144. - R. 1163-1178.
19. Schnell K. The prevalence of clinically-relevant comorbid conditions in patients with physician-diagnosed COPD: a cross-sectional study using data from NHANES: 1999-2008 / K. Schnell, C.O. Weiss, T. Lee // BMC Pulm. Med. - 2012. - № 12. - R. 26.

FORENSIC IDENTIFICATION OF ORIGIN OF MENSTRUAL BLOOD BY PROSTAGLANDIN F2a

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Key words: forensic examination, menstrual blood, sexual crimes, prostaglandin F2alfa.

To date, modern forensic practice experience the lack of reliable methods to determine the origin of menstrual blood stains. This article outlines the main directions in the development of criteria for determining and justifying origin of menstrual blood on the material evidences during forensic examinations, especially in cases of sexual crimes. The content of F2alfa prostaglandin identified in the chromatograms is a reliable sign of the origin of menstrual blood.

References

1. Bobylev R.V. Tehnologija lekarstvennyh form: Uchebnik v 2 tomah / [R.V. Bobylev, G.P. Grjadunova, L.A.Ivanova i dr.] // Pod red. L.A. Ivanovoj. – M. : Medicina, 1980. – T. 2. – S. 64-93.
2. Zagradskaja A.P. Sovremennoe sostojanie i perspektivy razvitija sudebno-medicinskih citologicheskikh issledovanij / A.P. Zagradskaja // Sudebno-medicinskaja jekspertiza.- 1985. - № 2. - S. 40-41.

3. Zagrjadskaia A.P. Sostojanie i zadachi dal'nejshego sovershenstvovaniia metodicheskogo urovnia sudebno-citologicheskikh issledovanii veshhestvennykh dokazatel'stv / A.P. Zagrjadskaia // Sudebno-medicinskaja jekspertiza. - 1980. - № 1. - S. 8-10.
4. Zajceva M.A. Sledy krovi na odezhde podozrevaemykh i ih znachenie v rassledovanii ubivstv / M.A. Zajceva // Sudebno-medicinskaja jekspertiza. - 2013. - № 3. - S. 55-57.
5. Maksimova T.V. Vydelenie prostaglandinov gruppy E i F metodom tonkoslojnoj hromatografii / T.V. Maksimova // Aktual'nye problemy farmacii. – Moskva, 1981. - 126 c.
6. Perepechina I.O. Oshibki pri issledovanii ob'ektov biologicheskogo proishozhdenija / I.O. Perepechina - Sudebnaja jekspertiza : tipichnye oshibki / Pod red. E.R. Rossinskoj. - M.: Prospekt, 2012. – 240s.
7. Abel M.N. The effect of 17 beta-estradiol and progesterone on prostaglandin production by human endometrium maintained in organ culture / M.N. Abel // Endocrinology. - 1980. - Vol. 106. – R. 1599-1606.
8. Schatz F.Ea. Prostaglandin output by human endometrium under superfusion and organ culture conditions / F.Ea. Schatz // Steroid Biochem. - 1985. - Vol. 22. – P. 231-235.
9. Wilson T. The effect of progesterone on the release of arachidonic acid from human endometrial cells stimulated by histamine / T. Wilson // Prostaglandins - 1986. - Vol. 31. – R. 343-360.

TREATMENT OF DEGENERATIVE DISEASES OF TEMPOROMANDIBULAR JOINT

Volovar O.S.

Key words: temporomandibular joint, medication, arthrocentesis.

As medication in the dental surgeon practice of the treatment of TMJ degenerative diseases is sometimes ineffective, the aim was to investigate the effectiveness of arthrocentesis in the treatment of degenerative diseases of the TMJ. Arthrocentesis as a minimally invasive surgical procedure makes it possible not only to eliminate the symptomatic signs, but also to affect the pathogenetic mechanism of the disease, and get a good result that we proved in practice.

References

1. Bezrukov V.M. Zabolevanija visochno-nizhnecheljustnogo sustava / V.M. Bezrukov, V.A. Semkin, L.A. Grigor'janc, N.A. Rabuhina. – M. : GJeOTAR-MEDIA, 2002. – 48 s.
2. Malanchuk V.O. Hirurgichna stomatologija ta shhelepno-liceva hirurgija : pidruchnik u 2 tomah / [V.O. Malanchuk, O.S. Volovar, I.Ju. Garljuskajte ta in.]. – K. : LOGOS, 2011. - 672 s.
3. Hvatova V.A. Klinicheskaja gnatologija / V.A. Hvatova. - M. : Medicina, 2005. – 296 s.
4. Cel' T – novye vozmozhnosti v terapii zabolevanij oporno-dvigatel'nogo apparata. Klinicheskij obzor preparata // Biologicheskaja terapija. - 2012. - № 3-4. – S. 42-45.
5. Jaremenko O.B. Opyt primeneniia implantata sinovial'noj zhidkosti Gialual' artro v lechenii bol'nyh s gonartrozom / O.B. Jaremenko, E.B. Kornienko, S.H. Teh-Vartan'jan // Ukraïns'kij revmatologichnij zhurnal. - 2011. - № 1 (43). – S. 52-55.

6. Dooley P. Corticosteroid injection and arthrocentesis / P. Dooley, M. Rod // Canadian Family Physician. - 2002. - Vol. 48. - S. 285-292.
7. Miloro M. Peterson's principles of oral and maxillofacial surgery, second edition. Temporomandibular Joint Arthrocentesis and Arthroscopy: Rationale and Technique / M. Miloro, G.E. Ghali, P.E. Larsen, P.D. Waite. - Hamilton, London : BC Decker Inc, 2004. - 967 p.
8. Murakami K.I. Outcome of arthroscopic surgery for internal derangement of the temporomandibular joint: long-term results covering 10 years / K.I. Murakami, N. Segami, M. Okamoto [et al.] // Journal of Craniomaxillofacial Surgery. - 2000. - Vol. 28. - P. 264-71.
9. Nitzan D.W. The Use of Arthrocentesis for the Treatment of Osteoarthritic Temporomandibular Joints / D.W. Nitzan, Ariella Price // J. Oral Maxillofac. Surg. - 2001. - Vol. 59. - P. 1154-1159.
10. Nitzan D.W. Temporomandibular joint arthrocentesis: a simplified treatment for severe limited mouth opening / D.W. Nitzan, M.F. Dolwick, G.A. Martinez // J. Oral Maxillofac. Surg. - 1991. - Vol. 48. - P. 1163-1167.
11. Shakya P. Efficacy of Arthrocentesis with Injection of Hyaluronic Acid in The Treatment of Internal Derangement of Temporomandibular Joint / P. Shakya, B.R. Quazi, S. Hossain [et al.] // Bangabandhu Sheikh Mujib Medical University Journal. - 2010. - Vol. 3 (1). - P. 18-22.
12. Sidebottom A.J. The role of arthroscopy and arthrocentesis in TMJ management / A.J. Sidebottom, N. Ahmed // Face mouth & jaw surgery: International trainee journal of oral & maxillofacial surgery. - 2012. - Vol. 2 (1). - P. 22-28.
13. Undt G. Cross-cultural adaptation of the JPF-Questionnaire for German-speaking patients with functional temporomandibular joint disorders / G. Undt, K. Murakami, G.T. Clark [et al.] // J. Craniomaxillofac. Surg. - 2006. - Vol. 34, № 4. - P. 226-233.
14. Wilkes C.H. Internal derangements of the temporomandibular joint. Pathological variations / C.H. Wilkes // Arch. Otolaryngol. Head Neck Surg. - 1989. - Vol. 115, № 4. - P. 469-477.

PRENATAL CARE AND CLINICAL CHARACTERISTICS OF WOMEN WITH UTERINE SCAR AFTER MYOMECTOMY

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Key words: myomectomy, pregnancy, a scar on the uterus.

The purpose of the investigation was to study the management of pregnancy and clinical features of women with uterine scar after myomectomy. The management of pregnancy and selection of delivery mode for women with uterine scar is a complex task and requires doctors' attention, professionalism and patience. A comprehensive examination involved 18 pregnant women with uterine scar after conservative myomectomy. The age of the patients ranged from 30 to 41 years, average age was 34,24±2,81 years. 78% of patients had different complications and/or medical conditions during this pregnancy. The most frequent complication in pregnant women with a uterine scar was a threatened miscarriage that required differential diagnosis with failure of the uterine scar for the choice of optimum tactics of this pregnancy.

References

1. Burlev V.A. Vlijanie agonista gonadotropin-rilizing-gormona na proliferativnuju aktivnost' i apoptoz u bol'nyh miomoy matki / V.A. Burlev, S.V. Pavlovich, N.I. Volkov // Problemy reprodukcii. – 2003. - № 3. - S. 27-31.
2. Kostjuchek D.F. Akusherstvo i ginekologija / D.F. Kostjuchek. - SPb, 2001. - 129 s.
3. Krasnopol'skij V.I. Hirurgicheskaja korrekcija reproduktivnoj funkcii pri miome matki. Posobie dlja vrachej / [V.I. Krasnopol'skij, S.N. Bujanova, N.A.Shhukina i dr.]. - M., 2004. – 12 s.
4. Landehovskij Ju.D. Otrasevoj standart (protokol) vedenija bol'nyh miomoy matki / Ju.D. Landehovskij, I.E. Fadeev // Akusherstvo i ginekologija. – 2002. - № 5. - S. 39-42.
5. Savel'eva G.M. Ginekologija. / G.M. Savel'eva, V.G. Bursenko. - M., 2004. - S. 187-203.
6. Chapron C. Adhesion formation after laparoscopic resection of uterosacral ligaments in women with endometriosis / C. Chapron, J. Guibert, A. Fauconnier [et al] // J. Am. Assoc. Gynecol. Laparosc. - 2001 – Vol. 8 (3). – R. 368-373.
7. Ito F. Ultra structural comparison of uterine leiomyoma cells from the same myomas nodule before and after gonadotropin-releasing hormone agonist treatment / F. Ito, N. Kamamura, T. Ichimura [et al] // Fertil. Steril. - 2001. - Vol. 75, № 1. - P. 125-130.
8. McLucas B. Uterine fibroid embolization: nonsurgical treatment for symptomatic fibroids / B. McLucas, L. Adler, R. Perrella // J. Am. Coll. Surg. – 2001. - Vol. 192 (1). – R. 95-105.
9. Miller C.E. Myomectomy. Comparison of open and laparoscopic techniques / C.E. Miller // Obstet. Gynecol. Clin. North Am. - 2000. - № 27 (2). - P. 407-420

PECULIARITIES OF NITRIC OXIDE METABOLISM IN SEPARATE GASTROESOPHAGEAL REFLUX DISEASE AND IN ITS ASSOCIATION WITH COMORBID ESSENTIAL ARTERIAL HYPERTENSION

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Key words: gastroesophageal reflux disease, arterial hypertension, nitric oxide.

The aim of the study was to evaluate the characteristics of nitric oxide metabolism in the combination of GERD with arterial hypertension compared with separate GERD. The study included 89 patients with separate GERD and 126 patients with combined GERD and arterial hypertension 2 stage 1-3 degrees. The control group consisted of 20 healthy individuals. The level of nitrite in blood plasma was significantly ($p < 0.001$) higher in patients with isolated GERD compared with patients with a combination of GERD and arterial hypertension and the control group, reflecting the presence of less obvious changes in the blood nitric oxide relative to the control values for the combination of GERD and arterial hypertension. Urinary nitrite excretion was significantly ($p < 0.001$) higher in the patients with isolated GERD compared with patients with GERD and the comorbidity, while both groups showed a preferential increase in excretion during the night hours. GERD combined with arterial hypertension did not reveal the effect of BMI on the performance of nitrite in blood plasma and excretion in the urine, whereas in isolated GERD nitrite concentration in plasma and urine had a direct correlation with BMI ($p < 0.05$). The patients with a combination of GERD and arterial hypertension, and with separate form of GERD showed nitrite levels in blood plasma was significantly decreased with increasing duration of the GERD course. The

patients in both groups demonstrated the duration of GERD influenced the level of nitrite excretion in the urine, while under the combination of GERD and arterial hyper-tension the greatest excretion was observed in the night hours, while the flowing in separate GERD was in the afternoon. In male patients with isolated GERD nitrite levels in plasma and urine were significantly ($p < 0.01$) higher than that in the female patients, while in patients with concomitant GERD and arterial hyper-tension some gender differences were only in nitrite levels in the blood plasma, which also prevailed in male patients ($p < 0.01$). In the patients with separate GERD nitric oxide metabolism parameters have a direct correlation with all the studied parameters daily intraesophageal pH meters.

References

1. Klinichni rekomendacii z arterial'noi gipertenzii Evropejs'kogo tovaristva gipertenzii (ESH) ta Evropejs'kogo tovaristva kardiologiv (ESC) 2013 roku (Pereklad Sirenko Ju.M.) // «Arterial'naja gipertenzija». - 2013. - № 4 (30). - Rezhim dostupu <http://www.mif-ua.com/education/symposium/klinichni-rekomendaciyi-z-arterialnoyi-gipertenzii-yevropejskogo-tovaristva-gipertenzii-esh-ta-yevropejskogo-tovaristva-kardiologiv-esc-2013-r>.
2. Tkach S.M. Biologicheskie jeffekty oksidov azota v zheludочно-kishechnom trakte / S.M. Tkach, K.S. Puchkov, Ju.G. Kuzenko // Suchasna gastroenterologija. - 2013. - № 4. - S. 118-128.
3. Fadeenko G.D. Gastroezofageal'naja refljuksnaja bolezni': pishhevodnye, vnepishhevodnye projavlenija i komorbidnost' / G.D. Fadeenko, A.E. Gridnev; Pod. redakciej A.N. Belovola. - Kiev., 2014. - 376 s.
4. Cheremushkina N.V. Osobennosti metabolizma oksida azota pri gastroezofageal'noj refljuksnoj bolezni : avtoref. diss. na soiskanie nauchnoj stepeni kand. med. nauk : spec. 14.00.05 «Vnutrennie bolezni» / Natal'ja Vasil'evna Cheremushkina. - Moskva, 2008.- 25 s.
5. Houston M. Acute Effects of an Oral Nitric Oxide Supplement on Blood Pressure, Endothelial Function, and Vascular Compliance in Hypertensive Patients / M. Houston, L. Hays // J. Clinical Hypertension. - 2014. - Vol. 16, Issue 7. - P. 524–529.
6. Raed A. Dweik. An Official ATS Clinical Practice Guideline: Interpretation of Exhaled Nitric Oxide Levels (FENO)for Clinical Applications / Dweik Raed A., Boggs Peter B., Erzurum Serpil C. [et al.] // American Journal of Respiratory and Critical Care Medicine. - 2011. – Vol. 184. - P. 602-615.
7. Iijima K. Involvement of luminal nitric oxide in the pathogenesis of the gastroesophageal reflux disease spectrum / K. Iijima, T. Shimosegawa // J. Gastroenterol. Hepatol. – 2014. – Vol. 29 (5). – P. 898-905.
8. Newsholme P. Exercise and possible molecular mechanisms of protection from vascular disease and diabetes: the central role of ROS and nitric oxide / P. Newsholme, P.I. Homem De Bittencourt, C. O' Hagan [et al.] // Clinical Science. - 2010. – Vol. 118 (5). - P: 341-349.
9. Vakil N. Montreal definition and classification of gastroesophageal reflux disease: a global evidence-based consensus / N. Vakil, S.V. van Zanten, P. Kahrilas [et al.] // Am. J. Gastroenterol. – 2006. – Vol. 101. – P. 1900–1920.

FEATURES OF TIMELY DIAGNOSIS OF ENCYSTED PLEURAL EMPYEMA

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Key words: encysted pleural empyema, diagnosis.

On the basis of clinical case the authors highlighted the problem of encysted pleural empyema diagnosis by the doctors of primary and secondary levels of medical care. The combination of physical and multi-purpose X-ray investigations is the most affordable that enables to detect this pathology and prevent long-term treatment of non-specialist hospitals and to prevent various complications. In many cases, rehabilitation of encysted pleural empyema aspiration with abscess flushing by non-specific antiseptics can lead to empyema elimination. In other cases such sanitation will be a reliable preoperative preparation.

References

1. Bisenkov L.N. Torakal'naja hirurgija. Rukovodstvo dlja vrachej / Pod redakciej L.N. Bisenkova. — Sankt-Peterburg, 2004.
2. Duzhij I.D. Klinichna plevrologija / I.D. Duzhij.- Kiïv: Zdorov'ja, 2000. —364s.
3. Duzhij I.D. Sistema diagnostiki zahvorjuvan' plevri ta sindromu pleural'nogo vipotu / I.D. Duzhij, M.D. Bliznjuk, A.V. Jurchenko. — Sumi: Vid-vo SumDU, 2010. — 35 s.
4. Duzhij I.D. Trudnoshhi diagnostiki hvorob plevri / I.D. Duzhij. — Sumi: Mrija-1 TOV, 2008. — 560 s.
5. Kolesnikov I.S., Lytkin M.I. Hirurgija legkih i plevry. — L.: Medicina, 1988. — 560 s.
6. Ostrye jempiemy plevry / [Kuzin M.I., Shkrob O.S., Pomelov B.C. i dr.] — Tashkent, 1976.
7. Linnik M.I. Diagnostika ta kompleksne likuvannja empiem plevri: avtoref. dis. na zdobuttja nauk. stupenja kand. med. nauk: spec. 14.01.03 «Hirurgija» / M. I. Linnik. - K., 2004.-14 s.
8. Lukomskij G.I. Nespecificheskie jempiemy plevry. — M.: Medicina, 1976. — 4-286 s.
9. Matveev V.Ju., Hasanov R.M., Galkov E.M., Fahrutdinov R.N., Ibragimov A.I. Kombinirovannoe hirurgicheskoe lechenie jempiemy plevry s primeneniem videotorakoskopii // Prakticheskaja medicina. — 2012. — №8, T. 2. — S. 111-116
10. Putov N.V., Levashov Ju.N. V kn.: «Bolezni organov dyhanija pod. red. Palevva N.G.». M.: Medicina. 1989. - T. 2. - 512 s.
11. Feshhenko Ju.I. Situacija s tuberkulezom v Ukraine / Ju.I. Feshhenko // Doctor. - 2002. - № 4. - S.11.
12. Cejmah E.A. Jempiemy plevry. Chastota vzniknovenija, punkcionnaja terapija, zakrytoe drenirovanie pleural'noj polosti. Chast' I. / E.A. Cejmah, A.V. Levin, P.E. Zimonin, A.M. Samujlenkov // Tuberkulez i bolezni legkih. — 2009. — № 8. — S. 3-9.
13. Chuchalin A.G. Pul'monologija: nacional'noe rukovodstvo / pod red. A.G. Chuchalina. M.: GJeOTAR-Media, 2009. - 960 s.
14. Light R.W. Pleural Diseases / R.W. Light. 2-nd ed. — Philadelphia: Lea and Febiger, 1990. — P. 129-149.

INTEGRATED TREATMENT OF PATIENTS WITH PSORIATIC DISEASE AND METABOLIC SYNDROME BASED ON INDICES OF SYSTEMIC INFLAMMATION

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Key words: psoriasis, metabolic syndrome, systemic inflammation, treatment.

The article shows the effectiveness of metformin hydrochloride inclusion as standard therapy in patients with psoriasis and concomitant metabolic syndrome that was evaluated by the key indices of clinical status of patients, carbohydrate metabolism and systemic inflammation.

References

1. Tkachenko S. G. Kardiometabolicheskij risk u bol'nyh psoriazom / S. G. Tkachenko, V. B. Kondrashova // Dermatol. ta venerol. - 2010. - №2 (48). - S. 11-17.
2. Abe M. Clinical usefulness and patient satisfaction for treatment with low-dose cyclosporine administration in patients with moderate psoriasis vulgaris./ M. Abe, H. Ishibuchi, T. Syuto [et al.] // J Dermatol. – 2007. – V. 34. - P. 290–293.
3. Augustin M. Co-morbidity and age-related prevalence of psoriasis: Analysis of health insurance data in Germany./ M. Augustin, K. Reich, G. Glaeske [et al.] // Acta Derm Venereol. - 2010. – V. 90. – P. 147–151.
4. Charles M., Morange P. et al. Effects of weight change and metformin on fibrolysis and the von Willebrand factor in obese nondiabetic subjects. The BIGPROI Study / M. Charles, P. Morange [et al.] // Diabetes Care. – 1998. –Vol. 21. – P. 1967-72.
5. Despres J. Potential contribution of metformin to the management of cardiovascular disease risk in patients with abdominal obesity, the metabolic syndrome and type 2 diabetes / J. Despres // Diabetes metabolism. – 2003. – R. 53-61.
6. Huang N.L. Metformin inhibits TNF-alpha-induced I kappa B Kinase phosphorylation, I kappa B-alfa degradation and IL-6 production in endothelial cells through PI3K-dependent AMPK phosphorylation / N.L. Huang, S.H. Chiang, C.H. Hsueh [et al.] // Int. J. Cardiol. – 2009. – Vol.134. - N 2. – P. 169-175.
7. Henseler T. A comparison between BSA, PASI, PLASI and SAPASI as measures of disease severity and improvement by therapy in patients with psoriasis / T. Henseler , K. Schmitt-Rau // Int J Dermatol. – 2008. - №47(10). - R. 19-23.
8. Lund S.S. Impact of metformin versus repaglinide on non-glycaemic cardiovascular risk markers related to inflammation and endothelial dysfunction in non-obese patients with type 2 diabetes / S.S. Lund, L.Tarnow, C.D. Stehouwer [et al.] // Eur. J. Endocrinol. - 2008. - Vol.158. - N5. – P. 613-641.
9. Sabbat R. Immunopathogenesis of psoriasis / R. Sabbat, S. Philips, C. Hoflich // Exp. Dermatol. - 2007. - Vol. 16, №9. - P. 779-798.
10. Sommer D. Increased prevalence of the metabolic syndrome in patients with moderate to severe psoriasis / D.Sommer, M. Jenisch, M. Suchan // Arch. Dermatol. Res. - 2006. - Vol. 298. - № 7. - P. 321–328.
11. Späh F. Inflammation in atherosclerosis and psoriasis: common pathogenic mechanisms and the potential for an integrated treatment approach/ F. Späh // Br. J. Dermatol. - 2008. - Vol. 159. - Suppl 2. - R. 10-17.

DIAGNOSTIC VALUE OF ASSESSING SPECIFIC IMMUNOGLOBULIN A UNDER MYOCARDIAL DAMAGES CAUSED BY ENTEROVIRAL INFECTION

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Key words: enterovirus infection, myocardial damage, specific immunoglobulin A.

Laboratory verification of enteroviral myocardial damage is associated with some difficulties, it requires effortful culture or virological studies with delayed results, and in some cases even end myocardial biopsy. This problem has been solved due to working out in-home ELISA test kits that helps to identify specific anti-bodies – immunoglobulins of classes M, A, G to enteroviruses. The aim of the research was to clear up the diagnostic work capacity in identifying specific immunoglobulin A in the diagnosis of myocardial damages caused by enterovirus. In 104 inpatients (68 men and 36 women), being hospitalized at the cardiology de-partment, ELISA was used to assess the contents of specific antibodies - immunoglobulins G and A to cardiotropic enteroviruses Cocksackie and Ekho. We found that 51 patients (49%) had a significant increase in the level of immunoglobulin G ($P < 0.01$) in 47 (45%) - a significant increase in the level of immunoglobulin A ($P < 0.05$). Increased levels of immunoglobulin A was detected in 56.9% of patients with elevated levels of immunoglobulin G and in 33.9% of patients with normal levels of immunoglobulin G to Cocksackie virus and Ekho. There was no correlation between increased levels of antibodies - immunoglobulin G and A. We can conclude that immunoglobulin A is an independent marker of cardiotropic enterovirus infection that leads to the affection of myocardium and cardiac pathology. Therefore it is appropriate to include it in the set of investigations for cardiac patients to verify the diagnosis.

References

1. Bondarev L.S. Jenterovirusnye infekcii (klinicheskie projavlenija, laboratornaja diagnostika, terapija) / L.S. Bondarev // Likuvannja ta diagnostika. – 2001. - № 2. – S. 46-50.
2. Zadorozhna V.I. Suchasni problemi enterovirusnih infekcij / V.I. Zadorozhna, V.I. Bondarenko // Suchasni infekcii. – 2010. - № 2. – S. 47-51.
3. Klingel K. Ongoing enterovirus-induced myocarditis is associated with persistent heart muscle infection: quantitative analysis of virus replication, tissue damage and inflammation / K. Klingel, A. Hohendl, M. Carm [et al.] // Proc. Natl. Med. Sci. - 2012. - Vol. 89. - P. 314-318.
4. Tracy S. A molecular and serologic evaluation of enteroviral involvement in human myocarditis / S.Tracy, N. Chapman, B.M. McManus [et al.] // J. Mol. Cell. Cardiol. – 2010. - Vol. 22. - P. 403-414.
5. McManus B.M. Direct myocardial enjry by enterovirus: a central role in the evolution of murine myocarditis / B.M.McManus, L.N.Chow, J.E.Wilson [et al.] // Clin. Immunol. Immunopathol. - 2003. - Vol. 68. - P. 159-169.
6. Huber S.A. Cocksackievirus-induced myocarditis is depend on distinct immunopathogenetic responses in different strains of mice / S.A. Huber // Lab. Invest. – 2007. – Vol. 76, № 5. – P. 691 – 701.
7. Amvros'eva T.V. Laboratornaja diagnostika jenterovirusnyh infekcij serdca / T.V. Amvros'eva, N.V. Poklonskaja, O.V. D'jakonova [i dr.] // Zhurnal mikrobiologii, jepidemiologii i immunobiologii. – 2004.

– № 3. – S. 58-62. 8. Weiss L.M. Detection of coxsackievirus B3 in myocardial tissues by the polymerase chain reaction / L.M. Weiss, L.A. Movahed, M.E. Billingham [et al.] // Am. J. Pathol. - 2011. - Vol. 138. - P. 497-503.

8. Archard L.C. Characterization of coxsackie B virus RNA in myocardium from patients with dilated cardiomyopathy by nucleotide sequencing of reverse transcription-nested polymerase chain reaction products / L.C. Archard, M.A. Khan, B.A. Soteriou [et al.] // Hum. Pathol. - 2008. - Vol. 29. - P. 578-584.

9. Zhdanjuk Ju.I. Znachenie opredelenija immunoglobulina M v diagnostike ostrogo jenterovirusnogo miokardita / Ju.I.Zhdanjuk, A.S.Priluckij, D.A. Lesnichenko [i dr.] // Aktual'ni problemi akusherstva i ginekologii, klinichnoï imunologii ta medichnoï genetiki. – Zbirnik naukovih prac'. Vipusk 18. Kiïv-Lugans'k, 2010. – S. 148-155.

10. Priluckij A.S. Znachenie opredelenija immunoglobulina G v diagnostike porazhenij miokarda, vyzvannyh jenterovirusnoj infekciej / A.S. Priluckij, Ju.I.Zhdanjuk, D.A.Lesnichenko [i dr.] // Tavricheskij mediko-biologicheskij vestnik. – 2010. – Tom 13. - № 3 (51). – S. 163-166.

11. Ljah Ju.E. Osnovy komp'juternoj biostatistiki: analiz informacii v biologii, medicine i farmacii statisticheskim paketom MedStat / Ju.E. Ljah, V.G. Gur'janov, V.N. Homenko, O.A. Panchenko – Doneck: ChP Papakica E.K., 2006. – 214 s.

INFLUENCE OF ANTIPHOSPHOLIPID ANTIBODIES IN WOMEN WITH PATHOLOGY OF HEPATOBILIARY SYSTEM ON ART PROGRAM

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Key words: hepatobiliary pathology, antiphospholipid antibodies, antiphospholipid syndrome, infertility, assisted reproductive technologies

Antiphospholipid antibodies (APA) are not only serologic markers, but also an important pathogenic factor causing the development of the main clinical manifestations of antiphospholipid syndrome (APS). Purpose of the study: to establish the role of APA in the effectiveness of assisted reproductive technology (ART) in functional disorders of the liver. Material and methods. We assessed blood serum APA by enzyme immunoassay in 50 women with hepatobiliary and 40 women without such disorders, who are preparing for ART programs. The results and discussion. Elevated levels of APA were found in 32.0% of women with infertility and liver disease, who were preparing for ART programs, against 15.0% of women with no evidence of hepatic impairment ($p < 0,05$). In 10.0% of women increased level of APA combined with one or more clinical criteria for APS. In cases of successful ART increased level of APA was established only in 10.0% of women versus 37.5% of patients with poor ART results ($p < 0,05$). None of the women with confirmed APS became pregnant. Conclusions. The presence of diagnostically significant APA levels impacts on the effectiveness of ART in women with hepatobiliary pathology, increasing the absolute risk of 0.94 against 0.74. It is important to take into account the level of APA when preparing women with hepatobiliary pathology for ART programs that requires further improvement of therapeutic support for these women.

References

1. Kljukvina N.G. Antifosfolipidnyj sindrom: klinika, diagnostika, lechenie / N.G. Kljukvina // *Lechashij vrach*. – 2005. – № 4. – S.26-29.
2. Makacarija A.D. Patogeneticheskoe znachenie antifosfolipidnyh antitel / A.D. Makacarija, V.O. Bicadze, D.H. Hizroeva, N.A. Makacarija, E.V. Jashenina / *Prakticheskaja medicina*. – 2012. – № 5 (60). – S.9-20.
3. Volkova M.V. Antifosfolipidnye antitela: sovremennye predstavlenija o patogeneticheskom dejstvii i laboratornoj diagnostike / M.V. Volkova, E.V. Kunder, I.I. Generalov, D. Roggenbuk // *Vestnik VGMU*. – 2015. – T.14, №3. – S.6-15.
4. Nasonov E.L. Antifosfolipidnyj sindrom. - Moskva : Litterra - 2004. - 424 s.
5. Alfirevic Z. How strong is the association between maternal thrombophilia and adverse pregnancy outcomes. A systematic review / Z. Alfirevic, D. Roberts [et al.] // *Eur. J. Obstet. Gyn. Reprod. Biol.* — 2002. — Vol. 101, № 1. — R. 6-14.
6. Kovac M. Thrombophilia in women with pregnancy-associated complications: fetal loss and pregnancy-related venous thromboembolism / M. Kovac, G. Mitic [et al.] // *Gynecol. Obstet. Invest.* — 2010. — Vol. 69, № 4. — P. 233-238.
7. Chan W.S. The «ART» of thromboembolism: a review of assisted reproductive technology and thromboembolic complications / W.S. Chan, M.E. Dixon // *Thromb Res.* — 2008. — Vol. 121, № 6. — R. 713-26.
8. Nelson Sm. Venous thrombosis during assisted reproduction: novel risk reduction strategies / Sm. Nelson // *Thromb Res.* — 2013. — Vol. 131, Suppl. 1. — P. 1-3.
9. Chernyshov V. Anti-idiotypic regulation of cofactor-independent antiphospholipid antibodies / V. Chernyshov, B. Dons'koi, M. Vodyanik // *Central European Journal of Immunology*. — 2011. — 36. — № 4. — P. 220-225.
10. Dons'koj B.V. Sistema antiidiotipovih antitel jak fiziologichnij mehanizm supresii produkcii kofaktornezaleznyh antifosfolipidnyh antitel / B.V. Dons'koj, V.P. Chernishov // *Fiziol. zhurn.* — 2006. — T. 52, № 1. — S. 71-77.

MICROALBUMINURIA IN PATIENTS WITH SECONDARY DILATED CARDIOMYOPATHY

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Key words: dilated cardiomyopathy, microalbuminuria, risk factors, alcohol abuse, occupational hazard
Microalbuminuria is defined as excretion of 30–300 mg of albumin per 24 hours (or 20–200 mcg/min). Microalbuminuria is the one of the earliest symptoms reflecting endothelial and progressive renal impairment. Also it is an independent risk factor for adverse cardiovascular diseases and a risk factor for venous thromboembolism. 103 cases of dilated cardiomyopathy were analyzed. Among them there were 84 men and 19 women, mean age $61,8 \pm 1,2$ years. We analyzed anamnesis, electrocardiographic and echocardiographic examination. Assessment of microalbuminuria was performed with semi-rapid method using test strips Multistix® 8SG. Analysis was performed by using the morning urine on the second day of

hospitalization. Statistical analysis of correlations was performed using Statistica 6.0. The presence of albumin in the urine was found in 70.33% of patients with secondary dilated cardiomyopathy. The negative result was found in 21.98% of patients and proteinuria was found in 7.69% of patients. Highest MAU results were observed in patients with the combination of several harmful factors and it was also high in patients with a history of occupational hazards. The lowest level of MAU was observed in patients with alcohol abuse. The level of MAU was not significantly different between men and women. There was found a strong direct relationship between voltage in ECG standard leads and microalbuminuria, and a strong inverse relationship between left ventricular ejection fraction and indicators of albumin in the urine.

References

1. Ivanov D.D. Mikroal'buminurija: vzgljad nefrologa / D.D. Ivanov // Zdorov'ja Ukraïni. – 2008. – № 21/1 – S. 18-19.
2. Preobrazhenskij D.V. Mikroal'buminurija: diagnosticheskoe, klinicheskoe i prakticheskoe znachenie (chast' pervaja) / D.V. Preobrazhenskij, A.V. Marenich, N.E. Romanova [i dr.] // Rossijskij kardiologicheskij zhurnal. – 2000. – № 3. – S. 56-59.
3. Pasechko N.V. Chastota i klinichne znachennja mikroal'buminurii v riznih populjacijah / N.V. Pasechko, L.M. Vacik, I.V. Pan'kiv // Mezhdunarodnyj jendokrinologicheskij zhurnal. – 2008. – №6 (18). – S. 77-85.
4. Nelson R.G. Assessment of risk of overt nephropathy in diabetic patients from albumin excretion in untimed urine specimens / R.G. Nelson, W.C. Knowler, D.J. Pettitt [et al.] // Arch. Intern. Med. – 1991. – Vol. 151 (9). – P. 1761-1265.
5. McCartan C. Cardiomyopathy classification: ongoing debate in the Economics Era / C. McCartan, R. Mason, S.R. Jayasighe, L.R. Griffiths // Biochemistry Research International. – 2012. – Vol.10. – P. 23-33.
6. Elliott P. Classification of the cardiomyopathies: a position statement from the european society of cardiology working group on myocardial and pericardial diseases / P. Elliott, B. Andersson, E. Arbustini [et al.] // Eur. Heart. J. – 2008. – Vol. 29, № 2. – P. 270-276.
7. Maron B.J. Contemporary Definitions and Classification of the Cardiomyopathies: An American Heart Association Scientific Statement From the Council on Clinical Cardiology, Heart Failure and Transplantation Committee; Quality of Care and Outcomes Research and Functional Genomics and Translational Biology Interdisciplinary Working Groups; and Council on Epidemiology and Prevention / B.J. Maron, J. A. Towbin, G. Thiene [et al.] // Circulation – 2006. — Vol. 113. — P. 1807—1816.
8. Poulsen P.L. Evaluation of a dipstick test for microalbuminuria in the three different clinical settings, including the correlation with urine albumin excretion rate / P.L. Poulsen, V. Hansen, T. Amby [et al.] // Diabetes Metab. – 1992. – Vol. 18 (2). – P. 395-400.
9. Borch-Johnsen K. Is screening and intervention for microalbuminuria worthwhile in patients with insulin-dependent diabetes / K. Borch-Johnsen, N. Wenzel, G.C. Viberti, C.E. Mogensen // Brit. Med. J. — 1993. — Vol. 306. — P. 1722-1725.
10. Mathiesen E.R. The natural course of microalbuminuria in insulin-dependent diabetes: A 10-year prospective study / E.R. Mathiesen, B. Ronn, B. Storm // Diabet. Med. — 1995. — Vol. 12. — P. 482-487.

11. Szczudlik A. Microalbuminuria and hyperthermia independently predict long-term mortality in acute ischemic stroke patients / A. Szczudlik, W. Turaj, A. Slowik, J. Strojny // *Acta Neurol. Scand.* — 2003. — Vol. 107. — P. 96-101.
12. Cirillo M. Microalbuminuria in nondiabetic adults / M. Cirillo, L. Senigalliesi, M. Laurenzi [et al.] // *Arch. Intern. Med.* — 1998. — Vol. 158 (17). — P. 1933-1939.
13. Bigazzi R. Microalbuminuria predicts cardiovascular events and renal insufficiency in patients with essential hypertension / R. Bigazzi, S. Bianchi, D. Baldari, V.M. Campese // *J. Hypertension.* — 1998. — Vol. 16 (9). — P. 1325-1333.
14. Haffner S.M. Microalbuminuria. Potential marker for increased cardiovascular risk factors on nondiabetic subjects? / S.M. Haffner, M.P. Stem, K.K. Gruber [et al.] // *Arteriosclerosis.* — 1990. — Vol.10 (5). — P. 727-731.
15. Mogenstein C.E. Management of early nephropathy in diabetic patients: with emphasis on microalbuminuria / C.E. Mogenstein // *Ann. Rev. Med.* — 1995. Vol. 46. — P. 79-94.
16. Mogenstein C.E. Microalbuminuria as a predictor of clinical diabetic nephropathy / C.E. Mogenstein // *Kidney Int.* — 1987. — Vol. 31. — P. 673-689.
17. Mogenstein C.E. Microalbuminuria predicts clinical proteinuria in maturity onset diabetes / C.E. Mogenstein // *New Engl. J. Med.* — 1984. — Vol.310 —P. 356-360.
18. Mogenstein C.E. Predicting diabetic nephropathy in insulin dependent patients / C.E. Mogenstein, C.K. Christensen // *New Engl. J. Med.*, — 1984. Vol. 311. — P. 89-93.
19. Mogenstein C.E. Prevention of diabetic renal disease with special reference to microalbuminuria / C.E. Mogenstein, W.F. Keane, P.H. Bennett [et al.] // *Lancet.* — 1995. — Vol. 346 (8982). — P. 1080-1084.
20. Randomised placebo-controlled trial of lisinopril in normotensive patients with insulin-dependent diabetes and normoalbuminuria or microalbuminuria / The EUCLID study group // *Lancet.* — 1997. — Vol. 349 (9068). - P. 1787-1792.
21. Richardson P. Report of the 1995 World Health Organization / International Society and Federation of Cardiology Task Force on the Definition and Classification of Cardiomyopathies / P. Richardson, W. McKenna, M. Bristow [et al.] // *Circulation.* — 1996. — Vol. 93. — P. 841-842.
22. Ritz E. Assessment of cardiovascular risk factors: The role of microalbuminuria / E. Ritz, D. Fliser, H.P. Klimm // Amsterdam, 1994.
23. Schwab S.J. Screening for microalbuminuria. A comparison of single sample methods of collection and techniques of albumin analysis / S.J. Schwab, F.L. Dunn, M.N. Feinglos // *Diabetes Care.* — 1992. — Vol. 15. — P. 1381-1384.

LEVEL OF PATIENTS' INFORMATION AWARENESS OF CATARACT

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Key words: information awareness, cataract, surgical treatment. .

In order to achieve the best results of the treatment it is important for patients to be in compliance with healthcare professionals. Some requirements refer to an ophthalmologist and some requirements refer to

a patient. The main requirements to the doctor are to make correct diagnostics, timely referring the patient to proper hospital equipped with proper medical devices and materials to perform the high quality surgical inter-vention on for cataract. From the other side the patient has to visit ophthalmologist as soon as possible after he feels the visual impairment. The patients' awareness plays critical part in treatment efficacy. The aim of the research was to estimate the effects produced by the patients' awareness about cataract particularities, the time of the first visit to the doctor, and cataract stage on the treatment outcomes. 791 patients who were hospitalized for cataract surgical treatment took part in questionnaire survey. Most of patients were aged from 61 to 80 (mean age $87\pm3,8\%$), 632 ($80\pm1,4\%$) patients were pensioners. $52(\pm1,8)\%$ of respondents had been aware about cataract before, $(32,7\pm1,7)\%$ of respondents had not been aware of this disease and $(15,3\pm1,3)\%$ of respondents found it hard to answer. The results of survey showed the main part of patients ($70\pm1,6\%$) received the information about cataract only during the visit to ophthalmologist with complaints on visual impairment or for new lens fitting.

References

1. Veselovskaja Z.F. Katarakta / Z.F. Veselovskaja, M.I. Bljumental', N.F. Bobrova. – Kiev : Kniga plus, 2002. – 208 s.
2. Koncepcija udoskonalennja informacijnoï sluzhbi ohoroni zdorov'ja m. Kieva / V.V. Zagorodnij, N.I. Vlasenko, O.S. Kovalenko [ta in.] // Inform. zabezpechennja ohoroni zdorov'ja v edinomu med. prostori stolici derzhavi : materialy nauk.-prakt. konf., 10-11 grudnja 1998 r. – K., 1998. – S. 11–14.
3. Korsakova N.V. Sovremennye aspekty patogeneza vozrastnoj katarakty cheloveka (obzor literatury) / N.V. Korsakova, N.P. Pashtae, V.E. Sergeeva, N.A. Pozdeeva // Oftal'mohirurgija . – 2012. – № 2. – S.82-85.
4. Podoljaka V.L. Informovanist' pacientiv jak zasib pidvishhennja social'noï efektyvnosti stacionarnoï medichnoï dopomogi / V.L.Podoljaka // Vestnik gigieny i jepidemiologii. – 2004. – № 2. – S. 195-198.
5. Ponomarenko V.M. Osnovi derzhavnoï polityki rozvitku informatizacii sistemi ohoroni zdorov'ja Ukraïni / V.M. Ponomarenko, N.M. Leshhuk // Ukr. zhurn. telemedycini ta med. telematiki. – 2006. – № 1. – S. 109–111.
6. Romanjuk L.M. Informacijne zabezpechennja upravlinnja stacionarnuju dopomoguju / L.M. Romanjuk // Visn. soc. gigieny ta org. ohoroni zdorov'ja Ukraïni. – 2003. – № 1. – C. 67–70.
7. Slipota ta slabkozorist'. Shljahi profilaktiki v Ukraïni. Naukovo-metodichne vidannja / Za redakcieju prof. Rikova S.O. – K. : TOV «Doktor-Media», 2011. – 268 s.

FUNCTIONAL CLASS OF HEART FAILURE AND MAJOR CARDIOVASCULAR CONDITIONS IN PATIENTS WITH IMPLANTED PACEMAKERS FOR ONE YEAR TERM UNDER PROPER MEDICATION

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Key words: implanted pacemaker, chronic heart failure, functional class of chronic heart failure, drug therapy, one year post-operative period.

Purpose. Purpose of this work was to evaluate the incidence of major cardiovascular conditions in patients with implanted pacemakers for one year term under proper hardware support and medication. **Materials and Methods.** The study involved 162 patients (89 men and 73 women) aged 69 ± 10 years examined before surgery, in early postoperative period (3-5 days), in a six month and a year period since permanent pacing with modes DDD/DDDR and VVI/VVIR, and under cardiac resynchronization therapy (CRT- P and CRT-D). During all the periods of observation we evaluated functional classes and stages of chronic heart failure, functional classes of stable angina, stages of arterial hypertension (AH). **Results.** The implantation of pacemakers for a year period under proper drug support led to a decrease in the frequency of occurrence higher functional classes and stages of heart failure and stable angina, degrees and stages of hypertension due to their transition to lower classes. The rate of decrease in the frequency of higher degrees and stages of AH was slower than that in stable angina. **Conclusions.** The findings showed the effectiveness of pace-makers and the need in adequate medical support for patients at all periods of pacing.

References

1. Voronkov L.G. Rekomendacii z diagnostiki ta likuvannja hronichnoï sercevoï nedostatnosti Asociaçii kardiologiv Ukraïni ta Ukraïns'koï asociaçii fahivciv iz sercevoï nedostatnosti / L.G.Voronkov, K.M.Amosova, A.E. Bagrij [ta in] // Ukraïns'kij kardiologichnij zhurnal, dodatok 1/2013. – S. 1-52.
2. De Cock C.C. Long-term follow-up of patients with refractory heart failure and myocardial ischemia treated with cardiac resynchronization therapy / C.C. De Cock , L.M. Van Campen , E.R. Jessurun [et al.] // Pacing Clin Electrophysiol. – 2005. - Jan.28. – P. 8-10.
3. Guiseppe Mancia ESC guidelines on the management of arterial hypertension / Mancia Guiseppe, Fagard Robert, Narkiewicz Krzysztof [et al.] // European Heart Journal. – 2013 . - №34. – P. 2159–2219.
4. Gilles Montalescot ESC guidelines on the management of stable coronary artery disease / Montalescot Gilles, Sechtem Udo, Achenbach Stephan [et al.] // Eur Heart J. – 2013. – 34 . – P. 2949–3003.
5. Haghjoo M. Effect of right ventricular lead location on response to cardiac resynchronization therapy in patients with end-stage heart failure / M. Haghjoo , HR. Bonakdar , M.V. Jorat [et al.] // Europace. – 2009. - №11(3). – P. 356-363.
6. Iskanderov B.G. A clinical course of coronary heart disease after pacemaker implantation and optimization of the pacing regime / B.G. Iskanderov, A.A. Minkin , T.N. Vakina // Ter Arkh. – 2004. - №76(12). – P. 23-27.
7. Kusiak A. Effects of biventricular pacing on right ventricular function assessed by standard echocardiography / A. Kusiak, J. Wiliński, W. Wojciechowska [et al.] // Kardiologia Pol. – 2012. - 70(9). - P. 883-888.
8. Menardi E. Cardiac resynchronization therapy modifies the neurohormonal profile, hemodynamic and functional capacity in heart failure patients / E. Menardi, A.Vado, G. Rossetti [et al.] // Arch Med Res. – 2008. - №39(7). – P. 702-708.
9. Ozabalova E. Does the resynchronization therapy lead to reduction of symptoms and to improvement of left ventricular functions in patients with chronic heart failure? / E. Ozabalova , M. Novak ,

J. Krejci [et al.] // Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub. – 2010. - №154(1). - P. 31-37.

10. Sideris S. Upgrading pacemaker to cardiac resynchronization therapy: an option for patients with chronic right ventricular pacing and heart failure / S. Sideris, E. Poulidakis, C. Aggeli [et al.] // Hellenic J Cardiol. – 2014. - №55(1). – P. 17-23.

ANTIBIOTIC THERAPY IN HEPATOBILIARY SURGERY

Kravtsiv M.I., Dudchenko M.O., Liulka O.M., Yousef Alragabi, Liakhovskyi V.I.

Key words: antibiotic, cefoperazone, sulbactam, surgery, treatment.

Successful treatment of surgical diseases of the abdominal cavity and prevention of postoperative complications depends on sufficient surgical treatment and on reasonable antibiotic therapy in the perioperative period. The efficiency of empirical antibiotic therapy with cefoperazone / sulbactam has been analyzed in the treatment of 217 patients with acute surgical diseases of hepatobiliary area. They were operated on in the surgical departments No.2 of the Poltava City hospital No. 2 during the period of 2012 - 2015. The results of the investigation show the sensitivity of microorganisms to cefosulbinum, favourable pharmacological profile, good bioavailability, ability to influence of both the aerobic and anaerobic microflora and they suggest this antibiotic as a medicine of choice for the treatment of surgical pathology of hepatobiliary zone and prevention of purulent postoperative complications.

References

1. Holovach I.Iu. Klinichni i mikrobiolohichni perevahy tsefoperazonu/sulbaktamu (sultsefu) / I.Iu.Holovach // Ostry'e i neotlozhny'e sostoyaniya v praktike vracha. – N1. – 2012. – p. 37-40.
2. Dudchenko M.O. Likuvannia hostroho kalkuloznoho kholetsystytu: “rannia” chy “planova” laparoskopichna kholetsystektomiia. / M.O.Dudchenko, M.I. Kravtsiv, O.M. Liulka [ta in.] // Klinichna khirurhiia. – N6 (684) – 2015. – p. 19-21..
3. Nichitaylo M.E. Lechenie i profilaktika infektsionnyih oslozhneniy v gepatobiliarnoy hirurgii / M.E.Nichitaylo, L.M.Buliku, B.F.Yakovlev // Klinichna khirurhiia. – N10. – 2013. – p. 10-13.
4. Akova M. Sulbactam-containing beta-lactamase inhibitor combinations/ M.Akova // Clin. Microbiol. Infect. – 2008. – Vol. 14, Suppl. 1. –P. 185–188.
5. American society of Anesthesiologists. New classification of physical status [editorial]. Anesthesiology 1963; 24: 111.
6. Singh A. V. Multidrug-resistant gram-negative bacteria in postoperative infections / A. V. Singh, B. Mishra, A. Thakur // Ind. Med. Assoc. — 2009. — Vol. 107, N 3. — P. 148 — 150.

NOSOTROPIC INTERRELATION BETWEEN ENDOTHELIAL DYSFUNCTION WITH DISORDERS OF LIPID AND CARBOHYDRATE METABOLISM IN PATIENTS WITH ISCHEMIC HEART DISEASE, HEART RHYTHM DISTURBANCES AND DIABETES MELLITUS

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Key words: endothelial dysfunction, lipid metabolism, carbohydrate metabolism, heart rhythm disturbance, diabetes mellitus, ischemic heart disease.

In the last few years considerable successes have been achieved due to understanding the mechanisms of development of heart rhythm disorders in patients with ischemic heart disease. It has been shown that in the severe courses of coronal atherosclerosis ventricular arrhythmias are the important predictors of cardiac death. Disturbances in lipid metabolism, diabetes mellitus, concomitant arterial high blood pressure, and smoking are the major risk factors affecting electro-physiological properties of myocardium. The paper presents the results of the survey of 61 patients with coronary heart disease and type II diabetes mellitus, and concomitant arrhythmias vs. 12 healthy individuals. The test group included 43 women and 30 men aged 51 to 63 years. To study the comparative characteristics and to determine indices of lipid and carbohydrate metabolism all the patients with coronary heart disease and type II diabetes were divided into 6 groups. We found high concentration of free fatty acids contributed to the development of insulin resistance and enhanced disorders at the cellular level. These changes led to the development of endothelial dysfunction and arrhythmia by mechanisms of abnormal automaticity and re-entry. Accordingly, it is important to consider the impact of correction of lipid and carbohydrate metabolism on the severity of endothelial dysfunction and arrhythmias in patients with coronary heart disease and diabetes type II.

References

1. Бобров В.О. Постинфарктна ішемія міокарда / В.О. Бобров, М.М. Долженко. – К., 2001. – С. 59–71.
2. Дощицин В.Л. Внезапная смерть и угрожающие аритмии / В.Л. Дощицин // Российский кардиологический журнал. – 1999. – № 1. – С. 46–51.
3. Малая Л.Т. Эффективность системной тромболитической терапии острого инфаркта миокарда и критерии ее определения / Л.Т.Малая, Я.В. Дыкун, Н.П. Копица [и др.] // Клиническая медицина. – 1995. – № 4. – С. 42–45.
4. Тепляков А.Т. Миокардиальная цитопротекция ингибитором α -окисления жирных кислот в виде монотерапии и в сочетании с α -адреноблокатором атенололом у больных с постинфарктной дисфункцией левого желудочка / А.Т. Тепляков, Т.В. Санкевич, Т.А. Степачева [и др.] // Кардиология. – 2003. – Т. 43, № 12. – С. 15–18.
5. Prevention of cardiovascular events and death with pravastatin in patients with coronary heart disease and a broad range of initial cholesterol levels. The Long-Term Intervention with Pravastatin in Ischaemic Disease (LIPID) Study Group // New Engl. J. Med. - 1998. - Vol. 339. - P. 1349-1357.
6. Yoshizumi M. Comparison of the effects of endothelin-1, -2 and -3 (1-31) on changes in $[Ca^{2+}]_i$ in human coronary artery smooth muscle cells / M. Yoshizumi, D. Inui, K. Kirima [et al.] // Jpn. J. Pharmacol. – 1999. – Vol. 81, № 3. – P. 298-304.

STUDY OF DEFORMATION CHANGES IN ANTERIOR ABDOMINAL WALL UNDER FUNCTIONAL LOADING

Lysenko R. B.

Key words: anterior abdominal wall, functional load, deformation, strain module, anisotropic mechanical properties

This paper presents the research aimed at studying the deformation changes in the anterior abdominal wall (AAW) under functional load. The study involved 29 healthy volunteers aged 18 to 45 years subjected to the analysis of the movement and deformation changes in AAW during maximum inflating the abdomen (test group), and 27 patients aged 20 to 47 years, who had had laparoscopic surgery (control group) with insufflation of the carbon dioxide to a pressure of 12 mm Hg into the abdominal cavity. Studies have shown the following changes in the mechanical properties of tissues AAW: the average of longitudinal deformation of 6% in the test group and 12% in the control group; deformation in the transverse direction was in 3% of the main group, and in 8% of the control group; deformation in the longitudinal direction exceeded deformation transversely by 38-54% (in average by 46%); the area of AAW in the test group increased by 10%, and in the control group by 22% (average 16%); strain modulus tissues of AAW in the longitudinal direction is less than the average transverse to 44% ($p < 0.05$).

References

1. Albaut G.N. Koncentracija naprjazhenij i deformacij v jelastomera / G.N. Albaut, N.V. Harinova // Nadezhnost' i dolgovechnost' mashin i sooruzhenij: mezhdunar. nauch.-tehn. sb. - Kiev, 2006. - № 26. - S. 135-141.
2. Baga D.K. Biomechanicheskie svojstva tkani beloj linii zhivota, komp'yuternoe modelirovanie v gerniologii / S.M.Lazarev, P.I. Begun, D.K. Baga, E.A. Lebedeva // Aktual'nye voprosy gerniologii : materialy 5-j mezhdunar. konf. – M., 2006. – S. 54–55.
3. Berezovskij V.A. Biofizicheskie harakteristiki tkanej cheloveka. Spravochnik. / Berezovskij V.A., Kolotilov N.N. - Kiev: Naukova dumka, 1990. – 224 s.
4. Zhukovskij V.A. Polimernye jendoprotezy dlja gernioplastiki / Zhukovskij V.A. - SPb.: Jeskulap, 2011. – 114 s.
5. Pashkovin T.N. Mehanicheskie harakteristiki mjagkih biologicheskikh tkanej / T.N. Pashkovin, A.P. Sarvazjan // Biomehanika. – 2003. – № 3. – S. 105–115.
6. Pisarenko G.S. Spravochnik po soprotivleniju materialov / Pisarenko G.S., Jakovlev A.P., Matveev V.V.; 2-e izd., pererab. i dop. – Kiev: Naukova dumka, 1988. – 736 s.
7. Fedorov A.E. Modelirovanie povedenija kozhi cheloveka pri bol'shih deformacijah / A.E. Fedorov, A.A. Adamov // Rossijskij zhurnal biomehaniki. – 2007. – T. 11, № 1. – S. 76–83.
8. Caplin S.N. Biomehanika perednej brjushnoj stenki, vybor optimal'nogo operacionnogo dostupa i tehniki zakrytija laparotomnoj rany: avtoref. dis. na soisk. uchenoj stepeni kand. med.nauk.: spec. 14.01.17 – "Hirurgija" / S.N. Caplin / – M., 2011. – 24s.

9. Korobeynikov S.N. Objective tensor rates and applications in formulation of hyperelastic relations // Journal of Elasticity. 2008. V. 93, No 2. P. 105-140.

LONG-TERM RESULTS OF COMPLEX TREATMENT OF LUMBAR DORSOPATHIES WITH NEUROLOGIC SYMPTOMS

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Key words: recovery period of treatment, physical rehabilitation, lumbar spine dorsopathies.

The purpose of the research was to assess the effectiveness of physical therapy (exercises) techniques included into comprehensive treatment of lumbar dorsopathies accompanied by neurological manifestations in the recovery period for outpatients as more effective in comparison with the standard method of physiotherapy. Advanced technique of physical therapy including traction massage, spinal traction, standard exercises, and, in conclusion, the implementation of the traction exercises. We assessed the dynamics of the disease, the dynamics of pain syndrome, mobility, MTS in outpatients with lumbar dorsopathy within 12 months of rehabilitation therapy comparing the findings with those of the control group. Results obtained by evaluating the data demonstrated the improvement in the basic result, compared with the control group. This is achieved by pointing primarily to overcome the MTS, which allows us to restore mobility in the lumbar spine, reduce pain syndrome and prevent relapses and complications of the disease in patients with lumbar dorsopathy.

References

1. Alekseev V. V. Differencial'naja diagnostika i lechenie boleĭ v pojasnice / V. V. Alekseev. – K. : Zdorov'ja, 2002. – 273 s.
2. Belova A. N. Nejrareabilitacija: rukovodstvo dlja vracheĭ / A. N. Belova. – M. : Antidor, 2000. – 568 s.
3. Voznesenskaja T. G. Bolevyje sindromy v nevrologicheskoj praktike / T. G. Voznesenskaja. – M. : Medpress, 1999. – 340 s.
4. Epifanov V. A. Osteohondroz pozvonohnika (diagnostika, lechenie i profilaktika): Rukovodstvo dlja vracheĭ / V. A. Epifanov, A. V. Epifanov. – M. : «Medpress-inform», 2004. – 272 s.
5. Epifanov V. A. Osteohondroz pozvonohnika / V. A. Epifanov // Fizkul'tura v profilaktike, lechenii i reabilitacii. – 2005. – № 2 (11). – S. 26-34.
6. Zhuk P. M. Osteohondroz pozvonohnika. Lechenie i profilaktika / P. M. Zhuk, I. N. Stel'mah, A. Z. Nychik. – K. : «Kniga-pljus», 2003. – 140 s.
7. Zhulev N. M. Osteohondroz pozvonohnika: Rukovodstvo dlja vracheĭ / N. M. Zhulev, Ju. D. Badzgaradze, S. N. Zhulev. – SPb. : Iz-vo Lan', 2001. – 592 s.
8. Muhin V. M. Fizichna reabilitacija: Pidručnik dlja vishhih navchal'nih zakladiv fizichnogo viovannja ta sportu / V. M. Muhin. – K. : Olimpijs'ka literatura, 2005. – 473 s.

9. Pat № 95257 Ukraïni, MPK (2014.01) A61N1/00. Sposib kompleksnogo likuvannja dorsopatij poperekovogo viddilu hrebta / Zajavnik ta patentovlasnik M. V. Manin (Ukraïna).— № u201408653; zajavl. 30.07.2014; opubl. 10.12.2014, bjul. № 23.).
10. Spravochnik po formulirovaniju klinicheskogo diagnoza boleznej nervnoj sistemy / Pod red. V. P. Shtoka, O. S. Levina. — M. : MIA, 2006. — 520 s.
11. Fishhenko V. Ja. Kinezoterapija pojasnichnogo osteohondroza / V. Ja. Fishhenko, I. A. Lazarev, I. V. Roj. — K. : «Med-kniga», 2007. — 96 s.
12. Halafjan A. A. STATISTIKA 6. Statisticheskij analiz dannyh / A. A. Halafjan. — M. : OOO «Binom-Press», 2007. — 512 s.
13. Malmivaara A. Surgical or nonoperative treatment for lumbar spinal stenosis? A randomized controlled trial / A. Malmivaara, P. Slati, M. Heliovaara // Spine. — 2007. — № 32. — P. 1-8.
14. Mense S. Pathophysiology of low back pain and transition to the chronic state – experimental data and new concepts / S. Mense // Schmerz. Der. — 2001. — Vol. 15. — R. 413-420.
15. Tadokoro K. The prognosis of conservative treatments for lumbar spinal stenosis: Analysis of patients over 70 years of age / K. Tadokoro, H. Miyamoto, T. Shimomura // Spine. — 2005. — № 30. — P. 2458-2463.
16. Wasiak R. Work disability and costs caused by recurrence of low back pain: longer and more costly than in first episodes / R. Wasiak, J. Kim, G. Pransky // Spine. — 2006. — Vol. 31 (2). — P. 219-225.

OPTIMIZATION OF ALLERGIC RHINITIS THERAPY FOR PATIENTS WITH BRONCHIAL ASTHMA IN THE OUTPATIENT SETTING

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Key words: allergic rhinitis, intermittent asthma, halotherapy.

Allergic rhinitis is often an initial manifestation of systemic allergy of airways. Asthma is controlled doubled worse in case of allergic rhinitis. The aim of the study was aimed to increase the effectiveness of the therapy for outpatients with following comorbidities: allergic rhinitis with intermittent asthma using the additional halotherapy course. Materials and methods. The study included 50 patients with allergic rhinitis and intermittent asthma. The average age of patients was $38,2 \pm 2,46$ years. The average disease duration was $1,8 \pm 0,3$ years. Comparative analysis showed the patients who received standard treatment and the halotherapy showed a significant difference in terms of disappearance of dyspnoea, coughing ($p < 0.05$), There was a significant increase in FEV1, and reducing IgE levels ($p < 0.05$) in comparison with the control group of the patients. It led to the reduction of treatment terms, improved the quality of patients' life.

References

1. Antipkin Ju.G. Bronhial'na astma, poednanaa z alergichnim rinitom u ditej: misce antigistaminnih preparatov u likuvanni / Ju.G.Antipkin, T.R. Umanec', V. F.Lapshin, ta in. // Astma ta alergija. - 2014. - №4 - S. 60-65

2. Bogomolov A.E., Puhlik B.M. Pollinozy - odna iz naibolee aktual'nyh problem allergologii // *Novosti medicyny i farmacii*. – 2013. - № 16 (467) - S. 6-9.
3. Zabolotnij D.I. Dosvid zastosuvannja levocetirizinu dlja likuvannja pacientiv iz cilorichnim alergichnim rinitom / D.I. Zabolotnij, T.V. Smagina, L.V. Zabrods'ka // «Apteka galic'ka». – № 15. - 2008. - S.52.
4. Nakaz Ministerstva ohoroni zdorov'ja Ukraïni 08 zhovtnja 2013 roku №868. Unifikovaniy klinichnij protokol pervinnoï, vtorinnoï (specializovanoï) medichnoï dopomogi. Bronhial'na astma.
5. Ostrinskaja T.V. Vozmozhnosti galoingaljacionnoj terapii pri lechenii patologii nosa i okolonosovyh pazuh : dissertacija k. med. n. : 14.00.04 - Sankt-Peterburg, 2004. - 112 s.
6. Puhlik S.M. Oshibki v diagnostike i lechenii allergicheskogo rinita / S.M. Puhlik // *Zdorov'ja Ukraïni*. – 2010. - №4. – S.42-43.
7. Romanjuk L.I. Alergichnij rinit jak komorbidnij stan bronhial'noï astmi / L.I. Romanjuk // *Astma ta alergija*. - 2013. - №2. – S.62-65.
8. Fadeenko G.D. Komorbidnist' i visokij kardiovaskuljarnij rizik – ključovi pitannja suchasnoï medicini / Fadeenko G.D., Gridnev O.C., Nesen A.O. ta in. // *Ukraïns'kij terapevtichnij zhurnal* - 2013. – №1. - S. 102-107.
9. Jurochko F. Monoterapija alergichnogo rinitu: bezpechne nablizhennja do povnogo kontrolju zahvorjuvannja / F. Jurochko // *Zdorov'ja Ukraïni*. - 2004. - № 7 (92). - S. 18.
10. Obimbo E.M. Allergic rhinitis and asthma – evidence for an association / E.M. Obimbo, M.E. Levin // *Current Allergy Clinical Immunology*. – 2013. – Vol. 26, No 1. – R. 4–7.

SPECTRAL-SELECTIVE FLUORESCENT LASER DIAGNOSIS OF BLOOD PLASMA POLYCRYSTALLINE FILMS IN THE DIFFERENTIAL DIAGNOSIS OF CHRONIC DIFFUSE LIVER DISEASES

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Key words: non-alcoholic fatty liver disease, chronic hepatitis, polarization mapping, autofluorescence.

This paper presents the study of distribution patterns of values of the fluorescence intensity polycrystalline blood plasma films in patients with various forms of chronic diffuse liver diseases. We found that the average value of representative samples and ranges of statistical points of 1st - 4th order, which describes the coordinate values of the intensity distributions of autofluorescent microscopic images of samples of blood plasma polycrystalline films in the patients and healthy individuals. We analyzed the operating characteristics of strength of the laser polarization mapping of two-dimensional distribution of intensity values of proper fluorescence microscopic images by determining the sensitivity, specificity and diagnostic accuracy of the test.

References

1. Permjakov E.A. Metod vlasnoï ljuminescencii bilka. E.A. Permjakov - M. : Nauka, 2003. - 180s.
2. Ceni E. Pathogenesis of alcoholic liver disease: role of oxidative metabolism / E. Ceni, T. Mello, A. Galli // *World J Gastroenterol*. – 2014. – Vol. 20(47). – P. 17756–17772.

3. Munch G. Determination of advanced glycation end products in serum fluorescence spectroscopy and competitive ELISA / G. Munch, R. Keis, A. Wessels [et al.] // Eur. J. Clin. Chem. Clin. Biochem. – 1997. – Vol. 35. – P. 669–677.
4. Paradies G. Oxidative stress, cardiolipin and mitochondrial dysfunction in nonalcoholic fatty liver disease / G. Paradies, V. Paradies, F.M. Ruggiero [et al.] // World J Gastroenterol. – 2014. – Vol. 20(39). – P. 14205–14218.
5. Peters T. All About Albumin: Biochemistry, Genetics, and Medical Applications / T. Peters - Elsevier Inc., Academic Press. – 1995. – 432p.
6. Ushenko Y.A. Investigation of formation and interrelations of polarization singular structure and Mueller-matrix images of biological tissues and diagnostics of their cancer changes / Y.A. Ushenko // J. Biomed. Opt. – 2011. – Vol. 16, № 6. – P. 98-105.
7. Ushenko Yu.A. Mueller-matrix diagnostics of optical properties inherent to polycrystalline networks of human blood plasma / Yu.A. Ushenko, O.I. Olar, A.V. Dubolazov [et al.] // Semicond. Physics, Quantum Electronics & Optoelectronics. – 2011. – Vol. 14, № 1. – P. 98-105.
7. Yermolenko S.B. Spectropolarimetry in singular structure biotissue images for diagnostics of their pathological changes / S.B. Yermolenko, Y.O. Ushenko, A.G. Prydij, S.G. Guminetski, I. Gruia // Proc. SPIE. – 2009. – Vol. 7371. – P. 73711M.

PREDICTION OF SEVERITY, CONSEQUENCES AND LATERALIZATION OF DEAFNESS IN CHILDREN WITH PRENATAL PATHOLOGY

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Key words: poor hearing, prediction of severity, follow-up groups.

Based on predictive scenarios we formed four groups of dispensary targeting with poor hearing children considering the severity of the condition, its consequences and lateralization. Significant predictors of the deafness severity is the gestational age of the newborn, the severity of respiratory distress syndrome, bronchopulmonary dysplasia, pathology of the central nervous system, the neonatal health by Apgar score, duration of mechanical ventilation and oxygen therapy. Findings of primary audiological examination provide high prognostic information value about the severity of hearing loss. Prognostic scenarios allow pediatricians to determine the severity of deafness in infants with high reliability that will increase the effectiveness of follow-up observations of children with prenatal pathology.

References

1. Barashnev Ju.I. Zrenie i sluh u novorozhdennyh / Ju.I. Barashnev, L.P. Ponomareva. - Moskva: «Triada-H», 2008. - S.123-171.
2. Znamenskaja T.K. Osnovnye problemy i napravlenija razvitija neonatologii na sovremennom etape razvitija medicinskoj pomoshhi v Ukraine / T.K. Znamenskaja // Neonatologija, hirurgija ta perinatal'na medicina.- 2011. - T. I, №1. - S. 5 - 9.
3. Sorokolat Ju.V. K voprosu jeffektivnyh modelej perinatal'nyh centrov / Ju.V. Sorokolat, T.M. Klimenko, M.A. Golubova, S.M. Korovaj // Neonatologija, hirurgija ta perinatal'na medicina. - 2012. - № 3. - S. 5 - 7.
4. Sorokolat Ju.V. Rezul'tati provedennja audiologichnogo skringingu v novonarozhdenih z perinatal'noju patologijeju / Ju.V. Sorokolat, T.M. Klimenko, O.P. Mel'nychuk // Zhurn. Pediatrija, akusherstvo i ginekologija. - 2012. - № 4.- S. 16 -18.
5. Sorokolat Ju.V. Dosvid ta napravlennja rozvitku sistemi kompleksnoï dopomogi sim'jam z dit'mi do 3 rokiv z porushennjami zdorov'ja ta rozvitku // Neonatologija, hirurgija ta perinatal'na medicina. - 2013. - №4 (10). - S.19-23.
6. Bolat H. Newborn Hearing Screening Program in Turkey: Struggles and implementations between 2004 and 2008 / H. Bolat, F. Bebitoglu, S. Ozbas [et.al] // International Journal of Pediatric Otorhinolaryngology. – 2009. – Vol. 73. – P. 1621–1623.
7. Pereira P.K. Newborn hearing screeningprogram: association between hearing loss and risk factors / P.K. Pereira // Revista de atualizacao cientifica. – 2007. - №19(3). - P. 267.
8. Yu J. The Outcome of a Combined Otoacoustic Emissions and Automated Auditory Brainstem Response Screening Protocol / J. Yu, Y. Kam, S. Wong et. al // J. Paediatr (New Series). - 2010. - Vol .15, No. 1. – P. 2-11.

EVALUATION OF ENDOTHELIAL FUNCTIONS IN WOMEN WITH ARTERIAL HYPERTENSION DEPENDING ON CLIMACTERIC SYNDROME SEVERITY

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Key words: endothelial dysfunction, climacteric syndrome, arterial hypertension, nitrogen dioxide, endothelin, endothelium-dependent vasodilatation.

Endothelial functioning in women with pathological course of menopause depending on its severity is still quite unknown. The aim of this study was to establish the features of endothelial functions in women with arterial hypertension depending on the severity of vegetative climacteric syndrome. The study involved 90 women suffering from arterial hypertension with a pathological course of menopause, who were divided into three groups depending on the MRS scores, and 30 women with no evidence of climacteric syndrome. We determined the extent of endothelium-dependent vasodilatation, the concentration of nitric oxide metabolites and endothelin in the blood plasma. We found a significant reduction in the concentration of nitrite, nitrate and the total concentration of nitric oxide metabolites in blood plasma, reduction of endothelium-dependent vasodilatation and increased endothelin-1 levels with increasing severity of climacteric syndrome. Decrease in plasma concentrations of nitrites and nitrates and nitric oxide metabolites in general, reduced endothelium-dependent vasodilatation, increased concentrations of endothelin-1 were observed in women with abnormal climax compared with women matched for age without climacteric syndrome. Reduced concentration of nitric oxide metabolites and endothelium-dependent vasodilatation, increased endothelin-1 is associated with an increase in the severity of menopausal syndrome. The growth of endothelial dysfunction correlates with the severity of menopausal symptoms on a scale MRS.

References

1. Prasad M. Coronary microvascular endothelial dysfunction is an independent predictor of development of osteoporosis in postmenopausal women / M. Prasad, M. Reriani, S. Khosla [et al.] // *Vasc Health Risk Manag.* – 2014. – No.10. – P. 533-538.
2. Kondo K. A fish-based diet intervention improves endothelial function in postmenopausal women with type 2 diabetes mellitus: a randomized crossover trial / K. Kondo, K. Morino, Y. Nishio [et al.] // *Metabolism.* – 2014. – No.7. – P. 930-940.
3. Moreau K.L. Tumor necrosis factor- α inhibition improves endothelial function and decreases arterial stiffness in estrogen-deficient postmenopausal women / K.L. Moreau, K.D. Deane, A.L. Meditz, W.M. Kohrt // *Atherosclerosis.* – 2013. – No.2. – P. 390-396.
4. Routledge F.S. Endothelial function in postmenopausal women with nighttime systolic hypertension / F.S. Routledge, A.L. Hinderliter, J. McFetridge-Durdle et al. // *Menopause.* – 2015. – No.8. – P. 857-863.
5. Swift D.L. Predictors of improvement in endothelial function after exercise training in a diverse sample of postmenopausal women / D.L. Swift, J.Y. Weltman, J.T. Patrie et al. // *J Womens Health (Larchmt).* – 2014. – No. 3. – P. 260-266.
6. Sanders K. Habitual exercise may maintain endothelium-dependent dilation in overweight postmenopausal women / K. Sanders, C.M. Maresh, K.D. Ballard et al. // *J Aging Phys Act.* – 2015. – No.1. – P. 40-46.
7. Chedraui P. Angiogenesis, inflammation and endothelial function in postmenopausal women screened for the metabolic syndrome / P. Chedraui, G.S. Escobar, F.R. Pérez-López et al. // *Maturitas.* – 2014. – No.4. – P. 370-374.
8. Akman L. The effects of different hormone treatment on endothelial function in healthy postmenopausal women / L. Akman, H. Duygu, F. Akercan et al. // *Gynecol Endocrinol.* – 2013. – No.9. – P. 867-872.
9. Mannacio V. Endothelial nitric oxide synthase expression in postmenopausal women: a sex-specific risk factor in coronary surgery / V. Mannacio, L. Di Tommaso, A. Antignano et al. // *Ann Thorac Surg.* – 2012. – No.6. – P. 1934-1939.
10. Costa T.J. Association of testosterone with estrogen abolishes the beneficial effects of estrogen treatment by increasing ROS generation in aorta endothelial cells / T.J. Costa, G.S. Ceravolo, R.A. dos Santos et al. // *Am J Physiol Heart Circ Physiol.* – 2015. – No.7. – P. 723-732.
11. Ruzkowska B. Adiponectin and endothelial markers in postmenopausal women taking oral or transdermal hormone therapy / B. Ruzkowska, A. Sokup, A. Kulwas et al. // *Acta Obstet Gynecol Scand.* – 2013. – No.7. – P. 841-846.
12. Wagner J.A. Lifetime history of depression, type 2 diabetes, and endothelial reactivity to acute stress in postmenopausal women / J.A. Wagner, H. Tennen, P.H. Finan et al. // *Int J Behav Med.* – 2012. – No.4. – P. 503-511.

13. Rossi R. Effects of antihypertensive treatment on endothelial function in postmenopausal hypertensive women. A significant role for aldosterone inhibition / R. Rossi, A. Nuzzo, D. Iaccarino et al. // J Renin Angiotensin Aldosterone Syst. – 2011. – No. 4. – P. 446-455.
14. Carnovale V. Correlates of reactive hyperemic index in men and postmenopausal women / V. Carnovale, M.E. Paradis, I. Giguere et al. // Vasc Med. – 2013. – No.6. – P. 340-346.

ENDOTHELIUM DILATATION OF BRACHIAL ARTERY IN FEMALE ADOLESCENTS DEPENDING ON FUNCTIONAL STATE OF AUTONOMIC NERVOUS SYSTEM

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Key words: adolescences, autonomic nervous system, initial vegetative tone, vegetative reactivity, vegetative support, diameter of the brachial artery, endothelium-dependent dilation.

The circulatory system is the key in providing adaptation to external and internal environment. Resistance to stress, maintaining a constant internal environment is largely dependent on the state of the regulatory mechanisms of the autonomic nervous system, the interaction between its sympathetic and parasympathetic divisions. This paper describes the study of endothelium-dependent dilation of the brachial artery cording to the functional state of the autonomic nervous system in adolescent girls. No significant fluctuations in the initial diameter of the brachial artery and absolute values of brachial artery diameter after occlusive dilatation depending on the functional state of the autonomic nervous system were identified. There was correlation between changes in the diameter of the brachial artery and the functional state of the autonomic nervous system. The highest coefficient of dilatation was observed in the group of girls with vagotonia, parasympathetic autonomic reactivity and insufficient vegetative support, and the lowest coefficient of dilatation was detected in the group of teenaged girls with vegetative balance, hypersympathicotonic autonomic reactivity and excessive vegetative provision. It characterizes the vagal-cholinergic homeostasis directionality as the most economical and adaptive for the cardiovascular system. The data suggest the possibilities of adaptation in adolescents depending on the functional state of the vegetative nervous system, and requires further in-depth study.

References

1. Amamchyan A. E. Kharakter sosudistyxh reaktsiy u podrostkov v norme i pri neyrotsirkulyatornoy distonii : avtoref. dis.... kand. med. nauk: 03.00.13 / A.E. Amamchyan. – Krasnodar, 2003. – 22 s.
2. Vegetativnyye rasstroystva. Klinika. Diagnostika. Lecheniye. / Pod red. A. M. Veyna. - M. : Meditsinskoye informatsionnoye agenstvo. – 2003. – 752 s.
3. Zateyshchikov D. A. Funktsional'noye sostoyaniye endoteliya u bol'nykh arterial'noy gipertoniiy i IBS / D. A. Zateyshchikov, L. O. Minushkina, O. YU. Kudryashova [i dr.] // Kardiologiya. – 2000. – №6. – S.14-17.
4. Ivanova O. V. Sostoyaniye endoteliyzavisimoy dilatatsii plechevoy arterii u bol'nykh gipertonicheskoy boleznyu, otsenivayemoye s pomoshch'yu ultrazvuka vysokogo razresheniya / O. V. Ivanova, T. V. Balakhonova, G. N. Soboleva [i dr.] // Kardiologiya. – 1997. – №7. – S.41-46.
5. Maksimovich N. A. Variabel'nost' serdechnogo ritma i endoteliyzavisimaya dilatatsiya sudov u detey i podrostkov s vegetativnoy disfunktsiyey / N. A. Maksimovich, L. M. Belyayeva, T. I. Rovbut' // Zhurnal GrGMU. – 2009. – №1(25) . – S. 66-71.
6. Manukhina Ye. B. Rol' oksida azota v serdechno-sosudistoy patologii: vzglyad patofiziologa. / Ye. B. Manukhina // Ros. kardiologicheskii zhurn. – 2000. – № 5. – S. 55-61.
7. Medvedev V. P. Anatomico-fiziologicheskiye osobennosti podrostkov. / V. P. Medvedev, A. M. Kulikov // Podrostkovaya meditsina: ruk-vo dlya vrachey / pod red. L. I. Levina – SPb. : Cpetsial'naya literatura, – 1999. – S. 32-49.
8. Mikhaylov V. M. Variabel'nost' ritma serdtsa. Opyt prakticheskogo primeneniya / V. M. Mikhaylov. – Ivanovo. – 2000. – 200 s.
9. Romanovskaya G. A. Perspektivy medikamentoznogo lecheniya endotelial'noy disfunktsii. / G. A. Romanovskaya, Ye. V. Akatova, G. N. Gorokhovskaya [i dr.] // Farmateka. – 2005. – №9. – S. 31-37.
10. Sidorov P. I. Psikhosomaticheskaya meditsina : [ruk-vo dlya vrachey] / P. I. Sidorov, A. G. Solov'yev, I. A. Novikova. – M.: MED press-inform. 2006. – 568 s.
11. Sudakov K. V. Evolyutsiya kontseptsii stressa / K. V. Sudakov // Vestnik RAMN. – 2008. – №11. – S. 59-67.
12. Fedotov I. G. Osobennosti vegetativnoy regulyatsii i endotelial'noy funktsii perifericheskikh arteriy u podrostkov s vysokim normal'nym AD i AG. / I. G. Fedotov, V. A. Serebrennikov, I. F. Grishina [i dr.] // Russkiiy med. zhurn. – 2013. – №14. – S. 778-784.

13. Shavrin A. P. Vzaimosvyaz' psikhoemotsional'nykh narusheniy s uvelicheniyem kompleksa intima-media i razvitiyem sosudistogo mikrovospaleniya / A. P. Shavrin, B. V. Golovskoy // Klinitsist. – 2011. – №4 – S. 17 – 20.
14. Sharapov A. N. Tipy gormonal'noy i vegetativnoy reaktivnosti u podrostkov 15 let. / A. N. Sharapov // Novyye issledovaniya v psikhologii i vozrastnoy fiziologii. – 1990. – № 2. – S. 112-115.
15. Bredt D. S. Endogenous nitric oxide syntthesis: biological functions and pathophysiology / D. S. Bredt // Free Rad. Res. – 1999. – № 31. – P. 577-596.
16. Celermajer D. S. Testing endothelial function using ultrasound / D. S. Celermajer // J. Cardiovasc. Pharmacol. – 1998. – Vol. 32, № 3. – P. 29-32.
17. Kérdő I. Ein aus Daten der Blutzirkulation kalkulierter Index zur Beurteilung der vegetativen Tonus lage / I. Kérdő // Acta neurovegetativa. – 1966. – Bd. 29, №2. – S. 250-268.
18. Pearson J. D. Normal endothelial cell funcsnion. / J. D. Pearson // Lupus. – 2000. – № 9. – P. 183-188.
19. Rozanski A. Impact of psychological factors on the pathogenesis of cardiovascular disease and implications for therapy / A. Rozanski, J. A. Blumenthal, J. Kaplan // Circulation. - 1999. – V. 99, №2. – P. 2192-2217.
20. Speiker L. E., Hurlimann D., Ruachitzka F., et al. Mental stress induces prolonged endothelial dysfunction via endothelin-A receptors / L. E. Speiker, D. Hurlimann, F. Ruachitzka [et al.] // Circulation. - 2002. – V.103, №24. – P. 2817-2821.
21. Walsh C. A. Syncope and sudden death in the adolescent / C. A. Walsh // Adolesc. Med. – 2001. – Vol.12, № 1. – P. 105-112.

CHANGES OF HEMODYNAMICS IN POOLS OF POSTERIOR LONG CILIARY ARTERIES IN PATIENTS WITH PERIPHERAL UVEITIS

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Key words: peripheral uveitis, posterior long ciliary arteries, fluorescence iridoangiography.

Peripheral uveitis is a serious damage of the vascular tract, leading to severe complications. Diagnosis of the inflammatory process in some cases is difficult that prevents timely adequate therapy.

The study was aimed to reveal the patterns of hemodynamics in the pool of posterior long ciliary arteries in patients with inflammatory diseases of the peripheral parts of the fundus in order to improve diagnosis of peripheral uveitis. Materials and method. The studies were conducted in 43 patients (47 eyes) with different forms of peripheral uveitis. The control group consisted of 18 healthy individuals (31 eyes). Along with tradi-tional methods of ophthalmological examination a comprehensive study of hemodynamics in the pool of pos-terior long ciliary arteries using rheophthalmography, Doppler ultrasound, fluorescent iridoangiography, and contact thermometry were carried out. Results and discussion. The patients with peripheral uveitis had hemodynamic deterioration in the pool of posterior long ciliary arteries. The linear velocity of blood flow was reduced to $20.2 \pm 2.1\%$; iridoangiography timing was lengthened (the time "hand-Iris" was increased to 16.93 ± 0.87 seconds); the exudative manifestations in the iris were noticed. Slowing of the blood flow linear speed in the area of studied vascular basin is caused by inflammation mechanical and toxic influence on the poste-rior long ciliary arteries. Doppler indicates the severity of the inflammatory process. Slowing of iridoangiogra-phy time parameters determines the level of iris vascular permeability damage. Perivascular changes sug-gest the severity of the inflammatory process and are specific to the peripheral uveitis. There was an in-crease of absolute temperature and temperature coefficient in the ciliary body in the area of localization of the inflammatory focus in all patients. Conclusions. The studies show the involvement of posterior long ciliary arteries in the course of the inflammatory process in the periphery of the fundus. Doppler ultrasound, fluores-cent iridoangiography and of contact thermometry can positively improve the diagnosis of inflammation in the periphery of the fundus.

References

1. Бару Е.Ф. Ультразвуковое исследование гемодинамики в бас-сейне глазничных артерий при открытоугольной глаукоме / Е.Ф. Бару // Новые методы применения ультразвука в офтальмологии. – Москва : Медицина. 1998. - 78с.
2. Веселовская З.Ф. Цифровой термометр для контактной тер-мометрии / З.Ф. Веселовская, Н.М. Сергиенко, Б.А. Пенюк // Офтальмол. журнал. – 2001. - № 4. - С. 65-66.
3. Каган Л.Е. Клинические особенности периферии глазного дна в норме и при патологических состояниях глаза / Л.Е. Каган // Вестник офтальмол. - 2003. - № 5. - С. 8-9.
4. Соломатин И.И. Осложнения периферических увеитов / И.И. Соломатин // Офтальмол. журнал. - 2007. - № 2. - С. 54-55.

5. Algvere P. Fluorescein angiography of iris / P. Algvere, B. Kornacki // *Akra Ophthalmol.* - 2005. - Vol. 56. - P. 803-816.
6. Asdourian D.K. The angiographic pattern of the peripheral retinal vasculature / D.K. Asdourian, M.K. Goldberg // *Arch. Ophthalmol.* - 2010. - Vol. 12. - P. 453-462.
7. Bec P. Uveoretinitis basal / P. Bec, J.L. Arne, U.L. Pillipat // *Arch. Ophthalmol.* - 1997. - Vol. 33. - P. 356-361.
8. Byer N.E. Changes in prognosis of lattice degeneration of the retina / N.E. Byer // *Trans. Amer. Acad. Ophthalmol.* - 2008. - Vol. 33. - P. 397-401.
9. Hogan M.I. Management of peripheral retina breaks / M.I. Hogan // *Ophthalmologica.* - 2008. - Vol. 56. - P. 546-549.
10. Zenker H.J. Fluorescein angiography in inflammation of the peripheral fundus: involvement of the choroid and retina / H.J. Zenker // *Ophthalmologica.* - 2006. - Vol. 87. - P. 54-61.

EPIDEMIOLOGICAL PECULIARITIES IN PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS AMONG THE GENERAL POPULATION AND VULNERABLE GROUPS

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Key words: sexually transmitted infections (STIs), diagnostics, prevalence, general population, vulnerable to STIs and HIV groups.

STIs cause serious effects on the overall health and are still remaining the challenge for healthcare worldwide. The purpose of this research was to study the features of STI prevalence among vulnerable groups and persons with STIs receiving treatment and diagnostic care at the medical settings of Kharkov. The analysis of the clinic and anamnestic data and findings of laboratory investigations of individuals (general population, members of vulnerable groups, their sexual partners) who received the treatment and diagnostic care in the state medical institutions including "IDVNA-MNU", Kharkiv, "Regional AIDS Centre", ICF "Blago", Kharkiv for 2010-2014. The representatives of the general population showed a high incidence of positive results of testing to trichomoniasis, urogenital chlamydiosis, urea- and mycoplasmosis, HPV, CMV, EBV, HSV, hepatitis C. The most common STIs among vulnerable groups are urogenital candidiasis, chlamydiosis, mycoplasmosis, bacterial vaginosis, and a high percentage of cases of HIV and hepatitis C spreading. The high prevalence of HIV and hepatitis C is observed almost among sexual partners of members of vulnerable groups. To detect the diseases in their early stage, to prevent STIs and HIV spreading in different population groups it is important to carry out testing for HIV, syphilis, and the most common STI, as well as for detecting viral infections (hepatitis, EBV, CMV, HPV), and to conduct their timely treatment.

References

1. Volkoslavskaya V.N. Ocherk zabolevaemosti infektsiyami, peredayuschimisya polovym putem, v Ukraine / V.N. Volkoslavskaya, A.L. Gutnev // *Zhurnal dermatovenerologii ta kosmetologii im. M.O. Torsueva.* - 2013. - № 1-2 (30). - P. 109-112.
2. Globalnaya strategiya profilaktiki infektsiy, peredavaemyh polovym putem, i borby s nimi, 2006—2015 gg. (VOZ) // *Vestnik dermatologii i venerologii.* - 2008. - №5. - S. 97-122.
3. IPPP i inye infektsii reproduktivnogo trakta. Rukovodstvo po osnovam meditsinskoy praktiki. - VOZ, 2004.
4. Sexually transmitted diseases: policies and principles for prevention and care, UNAIDS / WHO, 2011.

EXPERIMENTAL MEDICINE AND MORPHOLOGY

PROSPECTS OF USING LASER POLARIMETRY METHODS TO INVESTIGATE BIOLOGICAL TISSUES AND FLUIDS OF HUMAN BODY

V. T. Bachinskiy, O.Ya. Vanchyljak, A.-V. S. Syvokorovska, M.S. Garazdiuk, O.G. Palyvoda

Key words: laser polarimetry, forensic examination, acute coronary insufficiency, structural changes, diagnostics.

The work shows the perspective of using new laser polarimetric criteria for the diagnosis of changes in tissues and fluids of the human body to address the forensic medicine practice. The research results are shown in the example with the myocardial tissue when the method of fractal analysis of laser polarization imaging for acute ischemia was used. The aim of the work was to establish the abilities in using laser polarimetry research techniques to investigate biological tissues and fluids of the human body in the practice of forensic medicine experts. Materials and methods. Investigation of the structure of laser imaging was performed in the traditional location of the Stokes polarimeter. Results. The study was based on series of polarization images of human myocardium and data obtained were analyzed. We established the distribution of polarization azimuths and their histogram values for images of myocardial tissue from both groups.

The results showed some reduction in the optically active substance of extracellular matrix of myosin fibrils in myocardial tissue samples in acute coronary insufficiency. It has been established the logarithmic correlation between the power spectrum distributions of the polarization azimuths of laser images in myocardial tissue sections for both groups. Our findings demonstrate the potential in using fractal analysis laser polarimetric imaging for diagnosis of ACI. They are based on the distribution of azimuths of laser imaging polarization in myocardial tissue with ACI statistics, as well as on the differences between the dispersion is doubled, asymmetry in 4 times higher and excess as high as in 3.2 times.

References

1. Tuchin V. V. Issledovanie biotkanej metodami svetorassejaniya / V. V. Tuchin // Uspehi fiz. nauk. – 1997. – T. 167. – S. 517-539.
2. Lazerna poljarimetrichna diagnostika v biologii ta medicini / [V. P. Pishak, O. G. Ushenko, O. V. Angel'skij, S. B. Ermolenko ta in.]; za radeakcieju V. P. Pishaka ta O. G. Ushenka . - Chernivci: Medakademija, 2000. – 305s.
3. Cowin S. C. How is a tissue built? / S. C. Cowin // J. Biomed. Eng. – 2000. – Vol. 122. – P. 553-568.
4. Angelsky O. V Statistical and Fractal Structure of Biological Tissue Mueller Matrix Images in Optical Correlation Techniques and Applications / O. V. Angelsky, A. G. Ushenko, Yu. A. Ushenko, V. P. Pishak // Society of Photo-Optical Instrumentation Engineers. – 2007. – P. 213-266.
5. Dubolazov O. V. On the Feasibilities of Using the Wavelet Analysis of Mueller Matrix Images of Biological Crystals / O. V. Dubolazov, A. G. Ushenko, V. T. Bachynsky [et al.] // Advances in Optical Technologies. – Vol. 2010. - Article ID 162832.
6. Ushenko A.G. Evolution of Statistic Moments of 2D-Distributions of Biological Liquid Crystal Net Mueller Matrix Elements in the Process of Their Birefringent Structure Changes / A.G. Ushenko, I. Z.Misevich, V. Istratiy [et al.] //Advances in Optical Technologies. – 2010. – Article ID 423145.
7. Bachinskij V.T. Poljarizacijni obrazi pozaklitinnih matric' osnovnih tipiv biologichnih tkanin dlja zavdan' sudovoï medicini / V.T. Bachinskij // Klinichna ta eksperimental'na patologija. – 2008. – T.7, №1. – S. 6 - 13.

POTENTIAL OF NEW COMPOSITION FOR HELICOBACTER PYLORI ERADICATION IN PATIENTS WITH GASTRIC AND PEPTIC ULCER DISEASE

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Key words: gastric and peptic ulcer diseases, Helicobacter pylori, eradication, inhibitory activity.

The article reviewed with anti-helicobacter therapy problems in cases of gastric and peptic ulcer diseases associated with Helicobacter pylori. Attempts to intensify therapeutic efficacy of this disease were substantiated by using new composition including natural and synthetic components. We carried out comparative analysis of inhibitory activity demonstrated by the active agents of the composition and some other antibacterial analogues. We detailed the appropriateness in studying the effectiveness of the composition in order to suggest it for manufacturing.

References

1. Baranskaja E.K. Sovremennye podhody k lecheniju jazvennoj bolezni / V kn. Profilaktika i lechenie hronicheskikh zabojevanij verhnih otdelov zheludochno-kishechnogo trakta / E.K. Baranskaja, V.T. Ivashkin, A.A. Sheptulin ; Pod red. akad. V.T.Ivashkina. - M. : MEDpress-inform, 2013. - S. 75-78.
2. Diagnostika i lechenie infekcii Helicobacter pylori – otchet soglasitel'noj konferencii Maastricht IV/ Florencija // Vestnik prakticheskogo vracha. - 2012. - Specvypusk 1. - S. 6-22.

3. Lakin G.F. Biometrija: Ucheb. posobie dlja biol. spec. vuzov / G. F. Lakin. – 4-e izd., pererab. dop. – M. : Vyssh. shk., 1990. – 352 s.
4. Lapina T.L. Racional'nyj vybor jeradikacionnoj terapii infekcii *Helicobacter pylori* / T.L. Lapina, Je.R. Mutigulina, V.T. Ivashkin // Rossijskij zhurnal gastrojenterologii, gepatologii i koloproktologii. - 2013. - T. 23, № 5. - S. 74-80.
5. Maev I.V. Sovremennye standarty lechenija kislotozavisimyh zabolevanij, associirovannyh s *H. pylori* (materialy konsensusa Maastricht-3) / I.V. Maev, A.A. Samsonov // Consilium Medicum. Gastrojenterologija. – 2006. – T. 08, № 1. – Rezhim dostupu <http://www.gastroscan.ru/literature/authors/2188>.
6. Malyj V.P. Novoe v lechenii jenteroinvazivnyh boleznej / V.P. Malyj, O.V. Gololobova // Mezhdunarodnyj medicinskij zhurnal. – 2011. – № 4. - S. 91-96.
7. Kolomoec' M.Ju. Morfologichna diagnostika zahvorjuvan' shlunkovo-kishkovogo traktu: suchasni pidhodi / M.Ju. Kolomoec', O.G. Kurik // Naukovij zhurnal MOZ Ukraïni. - 2013. - № 2 (3). – S. 136-151.
8. Profilaktika i lechenie hronicheskikh zabolevanij verhnih otdelov zheludochno-kishechnogo trakta / Pod red. akad. RAMN V.T. Ivashkina. 2-e izd., pererab. i dop. – M. : MEDpress-inform, 2013. – 152 s.
9. Sidorenko S.V. Antibiotikogramma: disko-diffuzionnyj metod. Interpretacija rezul'tatov / S.V. Sidorenko, V.E. Kokalov // Sanofi Pasteriur. - M. : Izd-vo «Arina». – 1999. – 31 s.
10. Stepanov Ju.M. Hvorobi organiv travlennja ta gastroenterologichna dopomoga naselennju Ukraïni: zdobutki, problemi ta shljahi ih virishennja / Ju.M. Stepanov // Zdorov'ja Ukraïni. – 2014. – № 9. - S. 10-11.
11. Cimmerman Ja.S. Problema rastushhej rezistentnosti mikroorganizmov k antibakterial'noj terapii i perspektivy jeradikacii *Helicobacter pylori*-infekcii / V kn.: Nereshennye i spornyje problemy sovremennoj gastrojenterologii / Ja.S. Cimmerman. – M. : MEDpress-inform, 2013. - S.147-166.
12. Current European concepts in the management of *Helicobacter pylori* infection. The Maastricht consensus report // Gut. – 1997. – Vol. 41. – P. 8-13.
13. Holt J. Bergey's Manual of Determinative Bacteriology. In 2 t. Volume 2. [Text] / J. Holt, N. Kried // Translated from English, edited by Acad. RASGA Zavarzin. – Moscow : Publisher "The World", 1997. – 368 p.
14. Malfertheiner P. Current concepts in the management of *Helicobacter pylori* infection - the Maastricht 2-2000 consensus report / P. Malfertheiner, F. Megraud, C. O'Morain [et al.] // Aliment. Pharmacol. Ther. – 2002. – Vol. 16 (2). – P. 167-180.
15. Malfertheiner P. Current concepts in the management of *Helicobacter pylori* infection - The Maastricht III Consensus Report / P. Malfertheiner, F. Megraud, C. O'Morain [et al.] // Gut. – 2007. – Vol. 56. – P. 772–781.
16. Malfertheiner P. Management of *Helicobacter pylori* infection – the Maastricht IV / Florence Consensus Report / P. Malfertheiner, F. Megraud, C. O'Morain [et al.] // Gut. – 2012. - Vol. 61 (5). – P. 646-664.
17. Warren J.R. Unidentified curved bacilli in the stomach of patients with gastritis and peptic ulceration / J.R. Warren, B.J. Marshall // Lancet. – 1983. – Vol. 1. – P. 1311-1315.

STATE OF ENERGY METABOLISM IN RATS POISONED WITH POLYOXIPROPILENGLYCOLE WITH 500 MOLECULAR MASS (L-502-2-10) IN SUBACUTE EXPERIMENT

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Key words: energy metabolism, polyoxipropilenglycole, xenobiotics.

This paper describes the influence of polyoxipropilenglycole with 500 molecular mass in subtoxic doses under subacute experiment on metabolic state of hepatocyte mitochondria and liver parameters of energy metabolism.

The choice of polyoxipropilenglycole with 500 molecular mass that has trade names "Laprol" - L-502-2-10, was predominantly based on the necessity to clear up potential safety of prognostic characteristics of xenobiotics for warm-blooded animals due to its widespread use, extensive contacts with the population and large volumes of production.

According to the experimental design the animals were given aqueous solutions of xenobiotic in 1/10, 1/100 and 1/1000 DL50 every day in the morning on an empty stomach for 60 days. The control group received drinking water in similar volumes. L-500-2-10 solution was administered orally via intragastric metal probe. In each group there were 40 rats. The subtoxic L-502-2-10 influence produced on the animals' tissue was assessed by indices of respiration and oxidative phosphorylation of mitochondria of hepatocytes, by content of adenosine monophosphate (AMP), adenosine diphosphate (ADP) adenosine triphosphate (ATP), inorganic phosphorus, cyclic 3,5 adenosine monophosphate (cAMP) and cyclic 3,5

guanosine monophosphate (cGMP). The mitochondrial respiration and oxidative phosphorylation rate were evaluated by polarographic oxygen consumption in the presence of acceptor (V3).

The results suggest the ability of L-502-2-10 in a dose 1/10 DL50 to inhibit the metabolic activity of mitochondria. It is indicated by inhibition of Mg^{2+} -, Ca^{2+} - and H^{+} -ATPase, which decreased under the influence of 1/10 DL50 almost 50%.

The results showed the significantly reduced hepatic content of ATP, ADP and AMP and increased levels of inorganic phosphorus after subacute polyoxipropilenglycole toxicification on 60 day of experiment. The analysis shows that L-502-2-19 depresses respiration and oxidative phosphorylation occurring against the backdrop of uncoupling processes, reducing oxygen consumption and macroergic compound ATP synthesis. To a lesser extent these violations were found in the group of animals poisoned with a dose of 1/100 DL50. In 1/1000 DL50 L-502-2-10 does not effect on the metabolic activity of mitochondria.

The cyclic nucleotide research indicates deterioration of intracellular metabolism under the «Laprol» influence both in 1/10 and in 1/100 DL50. Moreover, 1/100 DL50 dose leads to activation whereas dose 1/10 - to the disruption of protective and adaptive mechanisms of homeostatic body functions providing.

Dynamic changes of cGMP had the opposite direction - under the influence of 1/10 DL50 its content in the liver increased on 127.25%, and in 1/100 DL50 - decreased on 42.56%. Cyclic nucleotide research indicates violations of intracellular metabolism under the influence of "Laprol" both in 1/10 and in 1/100 DL50. Moreover, 1/100 DL50 dose leads to activation whereas dose 1/10 - to the disruption of protective and adaptive mechanisms of homeostatic body functions.

Results of the study indicate that L-502-2-10 in 1/10 and 1/100 DL50 inhibits the metabolic activity of hepatocyte mitochondria, characterized by a decrease in respiration, oxidative phosphorylation, membrane-active enzymes structured Mg^{2+} -, Ca^{2+} - and H^{+} -ATPase, separation of respiration and ATP synthesis. All these changes take place against the background of intracellular metabolic dysfunction and inhibition of metabolism nucleoside phosphate bioenergy homeostasis. "Laprol" in 1/1000 DL50 does not affect the metabolic activity of mitochondria and bioenergetic processes in hepatocytes under long subtoxic action on rats in subacute experiment.

References

1. Biohimicheskie aspekty jekologicheskoy patologii, svjazannye s himicheskim zagriznieniem poverhnostnyh istochnikov vodosnabzhenija / [Shherban' N.G., Zhukov V.I., Mjasoedov V.V., Rezunenkov Ju.K.]. – Har'kov : «Rarity Ukrainy», 2011. – 176 s.
2. Detergenty – moduljatory radiomimeticheskikh jeffektov / [V.I. Zhukov, V.V. Mjasoedov, Ju.I. Kozin i dr.]. – Belgorod : «Belvitaminy», 2000. – 375 s.
3. Zhukov V.I. Prostye i makrociklicheskie jefiry: nauchnye osnovy ohrany vodnyh ob#ektov / [V.I. Zhukov, L.D. Popova, O.V. Zajceva i dr.]. – Har'kov : «Tornado», 2000. – 438 s.
4. Zhukov V.I. Ftorydy: biologicheskaja rol' i mehanizm dejstvija / V.I. Zhukov, O.V. Zajceva, V.I. Piven'. – Belgorod : «Belvitaminy», 2006. – 220 s.
5. Meshkova N.P. Praktikum po biohimii / N.P. Meshkova, S.E. Severin. – M. : MGU, 1979. – 428 c.
6. Sonin E.F. Osnovy biohimii myshc / E.F. Sonin. – K. : Izdatel'stvo Kievskogo universiteta. – 1960. – 181 c.
7. Shherban' N.G. Ocenka riskov zdorov'ja naselenija ot opasnyh othodov (Biohimicheskie aspekty) / Shherban' N.G., Zhukov V.I., Mjasoedov V.V.. – Har'kov : «Apostrof», 2010. – 156 s.
8. Atrinson D.E. The energy charge of the adenylate pools as a repylatory parameter. Interaction With ofeedback modifiers / D.E. Atrinson // Biochemistry. – 1968. – Vol. 7, 41. – P. 4030–4034.
9. Beutler E. Method of enzymatic analysis / E. Beutler // New York. – 1975. – Vol. 1, № 3. – P. 565–566.
10. Chance B. Respiratory enzymes in oxidative phosphorylation J. kinetics of oxyden unilization / B. Chance, G.R. Williams // J. Biol. Chem. – 1955. – Vol. 217, № 1. – P. 383–395.
11. Joworek D. Adenosin-5-diphosphate and Adenosin-5-monophosphate / D. Joworek, W. Gruber, H.U. Bergmeyer // Cnemic. – 1974. – P. 2174–2181.
12. Steiner A.L. Radioimmunoassay for measurement of cyclic nucleotides / A.L. Steiner, R.E. Wehmann, Ch.W. Parker // Advances in cyclic nucleotides research. – Raven Cress H.J. – 1972. – Vol. 2. – P. 51–52.

ESTIMATION OF STUDENTS' FUNCTIONAL STATE DURING VISUAL PERFORMANCE BY ELECTROPHYSIOLOGICAL INDICES

Yevtushenko A. S.

Key words: electrocutaneous resistance, visual performance, visual fatigue, asymmetry.

The aim of the research was to assess the influence of visual performance on human electrophysiological indices. The study involved 26 high school students, their average age was (21, 2 ± 1 , 5) years. The nearest points of clear vision and convergence, positive reserves of accommodation were measured in the test individuals before and after the visual load. The levels of electrocutaneous resistance in acupuncture sites on the left hand were measured in capacity of electrophysiological indices. The acupuncture sites selected were associated with the central nervous system and eyes. It was shown that electrocutaneous resistance asymmetry's index has the highest information value for evaluating functional state. This index is calculated by the difference in modulus of indexes on the left and right hand. The factor structures analysis was carried out in the test groups where the asymmetry of electrocutaneous resistance increased or decreased resulted from visual work. It was found the dynamics of electrocutaneous resistance asymmetry is associated with visual system indices change. The index of electrocutaneous resistance asymmetry increased under the development of visual fatigue. Thus, this technique can be used to estimate functional state of visual system.

References

1. Aldersons A.A. *Mehanizmy jelektrodermal'nyh reakcij* / A.A. Aldersons. - Riga : Zinatne, 1985. - 129 s.
2. Aldersons A.A. *Psihofiziologicheskie reakcii jenergoobmena* / A.A. Aldersons. - Riga : Zinatne. - 1989. - 135s.
3. Aminov N.A. *Vytesnenie kak fenomen «utratija jazyka»: proverka gipotezy Brunera i Postmana o mehanizme perceptivnoj zashhity* / N.A. Aminov // *Novye issledovanija v psihologii*. - 1981. - № 2. - S. 28—32.
4. Vasilenko A.M. *Issledovanie dinamiki odnositel'nyh pokazatelej jelektropunkturoj diagnostiki pri godichnom monitoringe uchashhihsja korrektrujushhego obrazovatel'nogo uchrezhdenija* / A.M. Vasilenko, A.L. Rozanov, I.V. Sivencova // *Refleksoterapija*. - 2005. - № 3. - S. 42-50.
5. *Deklaracijnij patent na vinahid*. Ukraïna, 43719 A UA, MPK A 61 V 10/00. *Sposib diagnostiki informacijnogo navantazhennja drukovanih vidan' dlja ditej ta pidlitkiv* / Krivonosov M. V., Podrigalo L. V., Kochina M. L., Javors'kij A. V., Maslova N. M. ; zajavnik ta patentovlasnik Harkivs'kij derzhavnij medicnij universitet. - № 2001063812 ; zajavl. 06.06.01 ; opubl. 17.12.01, Bjul. № 11.
6. Zhbakov O.V. *Tehnologija kontrolja psihofizicheskogo sostojanija studentov i upravlennja im* / O.V. Zhbakov, E.V. Tolstoj // *Teorija i praktika fizicheskij kul'tury*. - 1997. - № 8. - S. 40 - 43.
7. *Kepalajte A.P. Jeksperimental'noe izuchenie polozhitel'nyh i otricatel'nyh jemocij* / A.P.Kepalajte, V.V.Suvorova // *Voprosy psihologii*. - 1991. - № 2. - S. 140-147.
8. *Serova E.N. Kozhno-gal'vanicheskaja reakcija: teorija i metodicheskie podhody* / E.N. Serova, Ju.P. Ivanov // *Medicinskie nauki*. - 2007. - № 5. - S. 52-54.
9. *Kochina M.L. koncepcija formirovanija zritel'noj sistemy detej i подроствkov pod vlijaniem vizual'noj nagruzki* / M.L. Kochina, A.V. Javorskij // *Visnik problem biologii i medicini*. - 2013. - Vip. 3 (T.2). -S. 170-175.
10. *Krauklis A.A. Uslovija vozniknovenija i zakonovernosti dinamiki kozhno-gal'vanicheskijh reakcij* / A.A. Krauklis, A.A. Aldersons // *Fiziologija cheloveka*. - 1982. - T.8, № 6. - S. 910-918.
11. *Limanskij Ju.P. Nauchnye osnovy akupunktury* / Ju.P. Limanskij, S.A. Guljar, I.Z. Samosjuk // *Refleksoterapija*. - 2007. - № 2 (20). - S. 9-18.
12. *Macheret E. L. Osnovy jelektro- i akupunktury* / E.L. Macheret, A.O. Korkushko. - Kiev : Zdorov'e, 1993. - 390 s.
13. *Nechushkin A.I. Opređenje funkcional'nogo sostojanija kanala po izmereniju jelektrokozhnogo soprotivlenija v odnoj tochke. V kn.: Iglrefleksoterapija* / A.I. Nechushkin, G.V. Lysov, E.B. Novikova, S.S. Usanov. - Gor'kij, 1974. - S. 22-25.
14. *Somov E.E. Metody oftal'mojergonomiki*. AN SSSR, otdelenie fiziologii / E.E. Somov. - L. : Nauka, 1989. - 157 s.
15. *Shapovalov S.L. Materialy k probleme zritel'nogo utomlenija u operatorov videodisplejnyh terminalov* / S.L. Shapovalov, A.S. Aleksandrov. - M. : GKVГ im. Akademika N.N. Burdenko, 1999. - 174 s.

MORPHOLOGICAL CHARACTERISTICS OF DERMIS IN TREATING WOUNDS WITH CRYOPRESERVED CORD BLOOD SERUM

Kovalov G.A., Ishchenko I.O., Naumova O.V., Repin N.V., Marchenko L.N., Govorukha T.P., Sandomirskiy B.P.

Key words: wound, cryopreserved cord blood serum, morphological characteristics, dermis.

The paper describes the potential in using cryopreserved cord blood serum (CCBS) to treat the wounds. The research aim was to study micro- and ultrastructure of modelled cold wounds. We studied the morpho-logical features characterizing the course of wound healing in animals with CCBS and placenta extract (PE). It has been demonstrated that PE and CCBS positively affect the healing of cold wounds. At the same time, in spite of the similar influence of PE and CCBS on morphogenesis of wounds the CCBS has more pro-nounced therapeutic effect. The treatment of animals with CCBS is not accompanied by purulent destructive complications that enhance earlier formation and maturation of young connective tissue and results in the growth of fibrous structures, reduction in the number of cell elements and vessels, the predominance of ma-ture fibroblasts of typical ultrastructure.

References

1. Kovaljov G.A. Vlijanie kriokonservirovannoj syvorotki kordovoj krovi i jekstrakta placenty na zazhivlenie holodovyh ran / G.A. Kovaljov, I.P. Visekancev, I.O. Ishhenko [i dr.] // Problemy kriobiologii i kriomeditsyny. – 2015. – T. 25, № 1. – S. 57–66.
2. Klinicheskaja hirurgija: nacional'noe rukovodstvo: v 3 t. – T. I. / Pod red. B.C. Savel'eva, A.I. Kirienko. – M. : GJeOTAR-Media, 2008. – 864 s.
3. Korzhetskij D.Je. Osnovy gistologicheskoy tehniki / D.Je. Korzhetskij, A.V. Giljarov. – SPb. : SpecLit, 2010. – 95 s.
4. Shafranov V.V. Mehanizm razrushenija biologicheskikh tkanej pri lokal'noj kriodestrukcii / V.V. Shafranov, E.N. Borhunova, M.A. Kostylev [i dr.] // Vestnik Rossijskoj akademii estestvennyh nauk. – 2012. – № 1. – S. 68–76.
5. Pomerancev O.N. Kriogennyj metod lechenija dobrokachestvennyh obrazovanij v dermatovenerologii / O.N. Pomerancev // Vestnik poslediplomnogo medicinskogo obrazovanija. – 2011. – № 4. – S. 70–73.
6. Regenerativno-plasticheskaja terapija alkohol'nyh visceropatij / [V. I. Grishhenko, G. A. Kovaljov, A. Ju. Petrenko i dr.]. – K. : Naukova dumka, 2010. – 151 s.
7. Rybolovlev Ju.R. Dozirovanie veshhestv dlja mlekopitajushhih po konstante biologicheskoy aktivnosti / Ju.R. Rybolovlev, R.S. Rybolovlev // Zhurnal dokladov AMN SSSR. – 1979. – T. 247, № 6. – S. 1513–1516.
8. Uikli B.C. Jelektronnaja mikroskopija dlja nachinajushhih / B.C. Uikli. – M. : Mir, 1975. – 324 s.
9. Andrews M.D. Cryosurgery for common skin conditions / M.D. Andrews // Am. Fam. Physician. – 2004. – Vol. 69, № 10. – P. 2365–2372.
10. Directive 2010/63/EU of the European parliament and of the council of 22 September 2010 on the protection of animals used for scientific purposes // Official Journal of the European Union. – 2010. – L 276. – P. 33–79.
11. Zimmerman E. Cutaneous cryosurgery / E. Zimmerman, P. Crawford // Am. Fam. Physician. – 2012. – Vol. 86, № 12. – P. 1118–1124.

POST-MORTEM DIAGNOSIS OF CAROTID PATHOLOGY: A METHOD OF MAKING CORROSION PREPARATIONS

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Key words: corrosive preparations, carotid artery, infusion mass.

Current methods of morphological studies of the neck vessels are mostly based on conventional techniques: filling the vascular bed with different mixtures or corrosion method. The purpose of this research was to improve the method of manufacturing corrosion preparations by correcting complex embedding materials to make preparations of the extracranial carotid arteries, reflecting the location and size of the vessels that are resistant to environmental conditions, ready to be used for scientific purposes. The cadaver carotid artery was embedded with solidifying mass containing polymer Protacrylic-M monomer AKR-7, Charlack-P red staining and dibutyl phthalate, and then we conducted tissue destruction (corrosion) followed by immersion in a solution of sodium bicarbonate to neutralize the hydrochloric acid. To confirm the effectiveness of the method proposed we made 20 corrosive agents of the carotid arteries, and the results confirmed the appropriateness in using this filling material as it enables us to replicate the parameters of the vessels. The pro-posed method of post-mortem diagnosis enables to reveal anomalies in size and location of the vessels, the presence of additional branches and collaterals. This helps to diagnose pathological tortuosity and deforma-tions, the location and extent of atherosclerotic plaques, as well as to assess the degree of atherosclerotic stenosis.

References

1. Akilova A.T. Metodika izgotovljenja korrozionnyh preparatov sosudov / A.T. Akilova // Trudy Voenno-Morskoj Medicinskoj akademii. – L., 1944. – T.III, Ch. 2. – S. 189-192.
2. Baharev A.V. Rol' UZ skanirovanija i MSKT angiografii v hirurgii stenozov sonnyh arterij / A.V. Baharev, V.B. Starodubcev // Bjulleten' NCSSH im. A.N. Bakuleva RAMN «Serdechno-sosudistye zabolevanija». – 2005. – T. 6, № 3. – S. 218.
3. Grishina I.I. Morfologija osnovnyh sosudistyh magistralej u marala v plodnom periode : avtoref. dis. na zdobuttja naukovoogo stupenja kand. med. nauk : spec. 16.00.02 «Patologija, onkologija i morfologija zhivotnyh» / I.I. Grishina. – Barnaul, 2006. – 19 s.
4. Kazanchjan P.O. Diagnostika i lechenie patologicheskoy izvitosti sonnyh arterij / P.O. Kazanchjan, V.A. Popov, E.N. Gaponova [i dr.] // Angiologija i sosudistaja hirurgija. – 2001. – T. 7, № 2. – S. 91-103.
5. Krasuskaja A.A. Tehnika korrozionnyh preparatov / A.A. Krasuskaja // Izvestija S.-Pb. biologicheskoy laboratorii. – S.-Pb., 1901. – T. V, Vyp. 1. – S. 124-127.
6. Krasuskaja A.A. Tehnika korrozionnyh i prosvetlennyh preparatov / A.A. Krasuskaja // Izvestija nauchn. in-ta im. Lesgafta. – L., 1934. – T. XVII, XVIII. – S. 215-217.
7. Kossovich L.Ju. Biomehanika sonnoj arterii cheloveka s patologicheskoy izvitost'ju / L.Ju. Kossovich, K.M. Morozov, O.E. Pavlova // Izvestija Saratovskogo un-ta. Ser. Matematika. Mehanika. Informatika. – 2013. – № 13 (3). – S. 76-82.
8. Lokes P.I. Anatomico-topografichni osoblivosti arterial'nih sudin nirok u domashnih kishok / P.I. Lokes, N.I. Dmitrenko, S.O. Kravchenko // Naukovi praci Poltavskoï derzhavnoï agrarnoï akademii. – Poltava : RVV PDAA, 2006. – T. 5 (24). – S. 74-79.
9. Krivec'kij V.V. Metodika otrimannja korozijnih preparativ sudinnogo rusla sim'janika laboratornih shhuriv / V.V. Krivec'kij, Ju.V. Moskalenko, S.D. Bonchev [ta in.] // Ukraïns'kij morfologichnij al'manah. – 2013. – T.11, № 1. – S. 112-113.
10. Mochalov O. Individual'naja izmenchivost' arhitektoniki krovenosnyh sosudov pochki : avtoref. dis. na soiskanie nauchnoj stepeni doktora med. nauk : spec. 14.00.02 «Anatomija cheloveka» / O. Mochalov. – Kishenev, 2006. – 48 s.
11. Seksjaev N.E. Sposoby sozdanija korrozionnyh materialov na primere koronarnoj sistemy serdca / N.E.Seksjaev, I.S.Bolotov // Bjulleten' medicinskih Internet - konferencij (ISSN 2224 - 6150). – 2014. – T.4., № 11. – S. 1282-1284.
12. Pikaljuk V.S. Metodicheskoe posobie po izgotovleniju anatomiceskikh preparatov / V.S. Pikaljuk, G.A. Moroz, S.A. Kutja. – Simferopol' : V-vo KGMU, 2004. – 100 s.
13. Chernyh A.V. Ispol'zovanie silikonovyh germetikov v kachestve napolnitelej pri izgotovlenii anatomiceskikh korrozionnyh preparatov polyh i trubchastyh organov / A.V.Chernyh, Ju.V.Maleev, V.V. Stekol'nikov // Visnik morfologii. – 2010. – № 16 (1). – S. 217-220.
14. Pat. № 2320168, RU. Mahovyh M.Ju. Sposob poluchenija anatomiceskikh polyh i trubchastyh struktur / M.Ju. Mahovyh [i dr.]; zajavl.06.07.2006; opubl. 27.03.2008.
15. Pat. № 2370483, RU. Sposob izgotovljenija uchebnyh anatomiceskikh preparatov krovenosnyh sosudov na trupnom materiale / R.M. Ragimov, T.S. Gusejnov; zajavl.05.01.2003; opubl. 20.02.2006.
16. Pat. № 2002054082, UA. Sposib vigotovlennja kombinovanih preparativ sudin golovnogogo mozku ta kistok cherepa / Ju.M. Vovk [ta in.]; zajavl.20.05.2002; opubl. 15.05.2003.
17. Goldstein L.B. Extracranial Carotid Artery Stenosis / L.B. Goldstein // Stroke. – 2003. – Vol. 34. – P. 2767-2773.

DEVELOPMENT OF NARCOTIC AND POSTNARCOTIC ACTION OF THIOPENTAL NA EVALUATED BY CENTRAL AND PERIPHERAL PARAMETERS OF NEURAL ACTIVITY

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Key words: Na thiopental, EEG, cortical neurons, motor activity, autonomic reaction.

Thiopental administered intravenously wakeful rabbits resulted in offensive narcotic state in 1-3 minutes since the drug dose injected. Narcotic effect consisted in the appearance of slow wave light amplitude activity registered by EEG, reduced respiratory rate, lowered general and stimulated electromyographic activity; accelerated heart rate. The initial phase of the action of thiopental (10-30) was characterized by short-term activation of the nervous system and was often accompanied by powerful generalized movement.

During this period, when registering the pulse activity of neurons in the sensorimotor cortex we revealed signs of hypoxic condition: short growth of periods of spontaneous activity and a sharp decline in the amplitude of the spikes. The development of narcotic effect, by contrast, was accompanied by a significant decrease in the frequency of spontaneous activity, restoration of amplitude spikes and disappearing of activation tonic responses of neurons to stimulation of the limbs and electrocutaneous iontophoretic summing acetylcholine. In the first minutes of the recovery period the newly developed

hypoxic effect disappeared up to 10th -15th minutes. By this time we registered the normalization of the basic parameters of the activity of the nervous system.

References

1. Zaks L. Statisticheskoe ocenivanie. / L. Zaks. - M. : «Statistika». - 1976. - 598s.
2. Levin S.G. Gipervozbudimost' polja SA1, vyzvannaja kratkovremennymi jepizodami gipoksii v srezah gippokampa krys raznogo vozrasta / S.G. Levin, S.V. Kalemenev, O.V. Goduhin // Ross.fiziol.zhurn. im. I.M.Sechenova. - 2004. - T.90, №1. - S. 121-126.
3. Mednikova Ju.S. Prispособitel'naja funkciya mozga i problemy gipoksii / Ju.S. Mednikova, S.N. Kozhechkin, F.V. Kopytova, O.H. Koshtojanc // Patolog.fiziol. i jeksperim. terapija. - 2012. - №3 - S. 33-41.
4. Mednikova Ju.S. Spontannaja aktivnost' korkovyh neyronov in vitro i ee regulirovanie pod vozdejstviem acetilholina / Ju.S. Mednikova, F.V. Kopytova, M.N. Zhadin // Ross. fiziol. zhurn. im. I.M.Sechenova. - 2009. - T.95.,№8. - S. 820-829.
5. Mednikova Ju.S. Holinergicheskij process i funkcional'noe sostojanie neyronov kory v uslovijah iskusstvennogo inkubirovanija / Ju.S. Mednikova, N.V. Pasikova, A.V. Isakova, F.V. Kopytova // Nejrohimija. - 2008. - T.25.,№1-2. - S.132-137.
6. Mjegin G. Bodrstvujushhij mozg. / G. Mjegin. - M. : IL., 1961. - 128c.
7. Fokin V.F. Jenergeticheskaja fiziologija mozga. / V.F. Fokin, N.V. Ponomareva. - M. : «Antidor», 2003. - 288c.
8. Jekklis Dzh. Fiziologija sinapsov. / Dzh. Jekklis - M. : Iz-vo «Mir», 1966. - 395c.
9. Blacklock J.B. Effect of barbiturate coma on glucose utilization in normal brain versus gliomas. Positron emission tomography studies / J.B. Blacklock, E.H. Oldfield, G. Di Chiro [et al.] // J. Neurosurg. - 1987. - V.67,№1., - P.71-75.
10. Brown D.A. Coupling of muscarinic acetylcholine receptors to neural ion channels: closure of K⁺ channels / D.A. Brown, N.J. Buckley, M.P. Caulfield [et al.] // Molecular mechanisms of muscarinic acetylcholine receptors function, Ed.by J.Wess. New York, Berlin, Heidelberg, 1995. - P. 165-182.
11. Godfraind J.M. Actions of dinitrophenol and some other metabolic inhibitors on cortical neurons / J.M. Godfraind, H. Kawamura, K. Krnjević, R. Pumain // J. Physiol. - 1971. - Vol.215. - №1. - P.199-222.
12. Lipton P. Ischemic cell death in brain neurons / P. Lipton // Physiol. Rev. - 1999. - Vol.79. N4. - P.1431-1568.
13. Mehta F.R. An update on GABAA receptors / F.R. Mehta, M.K. Ticku // Brain Res.Rev. - 1999. - Vol.29. - P.196-217.
14. Rall W. Matching dendritic neuron models to experimental data / W. Rall, R.E. Burke, W.R. Holmes [et al.] // Physiol. Rev. - 1992. - Vol.72, N4 (Suppl.). - P. 159-186.
15. Ries C.R. Ionic mechanism of isoflurane's action on thalamocortical neurons / C.R. Ries, E. Puil // J.Neurophysiol. - 1999. - Vol.81, N4. - P. 1802-1809.
16. Tanelian D.L. The role of the GABAA receptor/chloride channel complex in anesthesia / D.L. Tanelian, P. Kosek, L. Mody, M.B. Maciver // Anesthesiology. - 1993. - Vol.78. - P.757-776.
17. Williams S.R. Dependence of EPSP efficacy on synapse location in neocortical pyramidal neurons / S.R. Williams, G.J. Stuart // Science. - 2002. - Vol.295. - P. 1907-1910.
18. Xiang Wan Pentobarbital depressant effects are independent of GABA receptors in auditory thalamic neurons / Wan Xiang, E. Puil // J.Neurophysiol. - 2002. - Vol.88.N6. - P. 3067-3077.

PARAMETERS OF 3H-WB 4101 AND 3H-DIHYDROALPRENOLOL BINDING BY ADRENOCEPTORS OF BRAIN CORTEX SYNAPTOSOMES OF RATS UNDER influence of IMIDAZOLIN CONTAINING ORGANIC COMPOUNDS

Maksymova I.G., Stetsenko S.O.

The activity of adrenergic receptors in the synaptosomal fraction of the rat brain cortex on the 30th day of the influence of industrial chemical pollutants, imidazolin mixtures, was determined by radioisotope method to be essential for the full disclosure of the biochemical mechanisms of membranotropic of action. Imidazolin-containing mixtures with alkyl radicals C7-9 and C9-15 at 1/10 and 1/100 LD50 doses cause change of adreno-ceptor kinetic properties, as evidenced by a decrease in the dissociation constant and the maximum number of binding sites of 3H-WB4101 by α_1 -subtype, increase of the maximum number of binding sites of 3H-dihydroalprenolol by α_1 -subtype. Changing the binding parameters of selective ligands of adrenergic receptors in synaptosomes of rat brain cortex is one of the pathogenetic links of

membranotropic mechanism of imidazolin mixture action to be considered in the development of methods for their correction.

Key words: mixture of imidazolines, rat brain cortex, adrenergic receptors, the dissociation constant, the maximum number of binding sites.

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Introduction

Comprehensive study of the influence produced by chemical environmental factors on the human body is an actual problem of current medical bio-chemistry [1, 2]. Common industrial chemical factors, including an imidazolin mixture (MIM), may produce adverse effects on the overall human health. This is associated with large amount of chemicals, widely used in various sectors of the economy (as the basis for industrial production of detergents, antistatic, anticorrosive agents, adhesive additives, etc.), revenues to the sources of drinking water [8, 9, 13]. The clinical picture of rats' acute poisoning with MIM demonstrates the symptoms of the central nervous system disorders in the foreground [8]. Furthermore, electron microscopy studies indicate significant changes in architecture of the nervous tissue, including impairment of the integrity of neurons under conditions of prolonged rat intoxication by MIM [8]. Lack of information about the biochemical mechanisms of MIM action on the body encourages us to conduct a comprehensive study, starting primarily with the state of the central nervous system. Taking into consideration the physical and chemical properties of MIM components (the presence of hydrophobic and hydrophilic groups, capacity for chemical reactions to form biologically active compounds, etc.), it is reasonable to research their influence on some characteristics of cell membranes, including membrane-associated receptor complexes. Several chemical factors are able to modulate the biochemical effects of natural regulators of metabolism and functions by interacting with the same receptor molecules as physiological effectors (hormones, neurotransmitters). There are the chemical factors having competitive binding properties with physiological effectors to cause violation of the receptor system functions [6]. Thus, the study of brain membrane-associated receptor complex of experimental animals under MIM influence is necessary for full disclosure of the biological action mechanisms and developing means of correction.

The aim of the study was to determine the conditions of 30-day toxicity in rats by imidazolin mixtures in 1/100 LD50 dose of dissociation constant and the maximum number of binding sites selective ligands α 1- and β 1-blockers of brain cortex synaptosomes.

Materials and methods

The examples of MIM with alkyl radicals C7-9 (MIM7-9) and C9-15 (MIM9-15) were used in the experiment. Experiments were carried out on the mature male Wistar rats, weighing 180-220 g. Maintenance and manipulation with animals were carried out according to the principles of bioethics. They were subjected to oral intoxication by probe using by aqueous solutions of compounds once daily per 30 days at a dose of 1/100 LD50. Middle-lethal doses (LD50) were: for MIM7-9 – 1.8 g/kg; MIM9-15 – 5.0 g/kg of body weight. The animals of the control group were injected by the corresponding volume of drinking water. The parameter study was performed at 30 days after the start of the experiment. Each group contained 15 animals. They were decapitated with pre-anesthesia by sodium thiopental. Synaptosomes were extracted by F. Hajos method [11]. To control the purity of the obtained fractions microscopic analysis of sediment synaptosomes and inter-fractional boundaries was performed. We determined the dissociation constant (K_d) and maximum number of binding sites (B_{max}) of α 1-adrenoreceptors (AR) – 3H-WB4101 and α -AR – 3H-dihydroalprenolol ligands, using Skatchard and Hill coordinates [5], and H.E. Rosenthal methods [12]. K_d and B_{max} determination of α 1-AR ligand were carried out by D. U'Prichard et al method [14]. 3H-WB4101 was used as a marked ligand (0.6 or 1.58 TBk/mmol, «Amersham», Great Britain). The incubation medium was 50 mmol of tris-HCl buffer (pH 7.4) with 10 mmol of ipraside. The reaction mixture contained the marked ligand (0.4-5.6 nmol), incubation medium, 50 μ L of synaptosomes. To determine non-specific binding ligand in additional tubes along with those listed elements of the reaction mixture unlabeled WB4101 in quantities necessary to create a concentration 10⁻⁴ moles. Measurements of radioactivity were carried out on the counter «Beta 2». To calculate the results in DPM (disintegration per minute) the formula is used: $X \times 5 \times (100/Y)$, where X – measurement results in CPM (count per minute), Y – measuring the effectiveness of internal standardization method, %. The specific ligand binding was determined as the difference between total and nonspecific binding. The level of non-specific binding amounted to 35% of the total. Efficiency measurements at «Beta 2» analyzer were 60%. The determination of α -AR ligand binding parameters was carried out by D.B. Bylund, S.H. Snyder [10]. 3H-dihydroalprenolol was used as selective ligand (1.4 or 2.1 TBk/mmol, «Amersham», United Kingdom), which made a number of dilutions was 0.5-6.0 nmol. The incubation medium was 50 mmol of tris-HCl buffer (pH 7.4); 10 mmol of MgCl₂. To determine nonspecific binding obsidan was used in concentration 10⁻⁴ moles, its level was 30% of the total binding. Statistical analysis was performed using the computer application package for the processing of statistical information Statistica 6.1 (StatSoft, Inc., USA). In the case of the normal distribution of data parametric characteristics - the average indicator (M)

and standard deviation (s) were used; in its absence nonparametric - median (Me) and inter-quartile scope. The critical level of significance during testing statistical hypotheses was accepted $p < 0.05$.

Results and discussion

During the study of selective ligands binding parameters of α_1 - and β_1 -AR brain cortex synaptosomes in the rats we used Skatchard schedule due to its curvilinear nature to indicate the presence of several different by affinity to ligand receptor pools or negative co-effect in a pool of receptors. For the studied receptor Hill coefficient (logarithm of the ratio of the ligand bound to the difference between the maximum value and this binding against the logarithm of the number of free ligand) was equal to one, indicating a lack of cooperative effects. Therefore, adopting alternative assumptions about the existence of several receptor pools H.E. Rosenthal method allowed allocating into Skatchard schedule two systems - low and high-affinity binding. The trends in functional properties changes in α_1 -AR rat brain cortex synaptosomes were the same for MIM7-9 and MIM9-15 (table).

Table

Parameters of 3H-WB 4101 and 3H-dihydroalprenolol selective ligands binding by adrenoceptors of brain cortex synaptosomes of rats at 30th day under imidazolin containing organic compounds action in 1/100 LD50 dose (n=15; Me [25%; 75%] or $M \pm s$)

Mixture	High-affinic pool		Low-affinic pool	
	Dissociation constant, nmol	Maximal amount of binding sites, fmol/mg of protein	Dissociation constant, nmol	Maximal amount of binding sites, fmol/mg of protein
α_1-adrenoreceptors				
MIM7-9	1.1 [0.5; 1.7] $p < 0.001$	110.3 \pm 21.62 $p < 0.001$	2.5 [2.2; 3.7] $p = 0.004$	34.0 [28.7; 42.1] $p < 0.001$
MIM9-15	0.9 \pm 0.18 $p < 0.001$	97 [72; 110] $p < 0.001$	3.7 [2.7; 4.6] $p = 0.3$	45.1 [39.5; 47.0] $p < 0.001$
Control	2.8 [2.0; 3.9]	170 [154; 194]	4.2 \pm 1.06	78.4 \pm 16.76
β_1-adrenoreceptors				
MIM7-9	0.40 \pm 0.129 $p = 0.089$	13.6 \pm 2.67 $p = 0.01$	0.88 \pm 0.197 $p = 0.199$	11.3 \pm 2.81 $p = 0.37$
MIM9-15	0.29 [0.22; 0.34] $p = 0.56$	19.9 [17.7; 23.4] $p < 0.001$	0.67 [0.58; 0.82] $p = 0.44$	14.4 [12.8; 17.6] $p = 0.009$
Control	0.32 \pm 0.112	11.2 \pm 2.08	0.75 \pm 0.226	9.2 [7.0; 14.8]

On the 30th day of the experiment MIM in a dose of 1/100 LD50 was statistically significant ($p < 0.001$) compared with control increases affinity to 3H-WB4101 ligand (reduced value K_d) of high-affinity receptor pool respectively at 61 and 68%. Prolonged action of MIM7-9 in 1/100 LD50 dose was also accompanied by a significant ($p = 0.004$) reduction (40%) of ligand-receptor complex of low-affinity α_1 -AR pool. MIM9-15 also tended to decrease K_d , but it was statistically insignificant ($p = 0.3$). Against the background of increasing affinity to α_1 -AR 3H-WB4101 ligand reduction ($p < 0.001$) of their number were determined, an average of 39% (high-affinic pool) and 50% (low-affinic pool). Reducing α_1 -receptors amount, possibly due to an adaptive re-sponse to the increase of their affinity.

The MIM influence on the β_1 -AR state has been mixed (table). MIM7-9 in 1/100 LD50 dose in the 30th day of observation did not affect the K_d of high-affinity receptor pool ($p = 0.089$), K_d and V_{max} of low-affinity receptor pool ($p = 0.199$ and $p = 0.37$, respectively) to the 3H-dihydroalprenolol ligand, but statistically significant ($p = 0.01$) compared to the control group, increased V_{max} of high-affinity pool at 22%. Prolonged exposure of MIM9-15 in 1/100 LD50 dose also found no significant effect on affinity ligand receptor both pools ($p = 0.56$ and $p = 0.44$), but statistically significant ($p \leq 0.009$) compared with control, their number increased: 78% in the case of high-affinity pool and 57% in case of low-affinity pool.

The influence of MIM on the activity of α_1 - and β_1 -AR of rat brain synaptosomes can be explained by their membrane tropic effects, such as adverse influence on the results of previous studies [3, 4] on the physicochemical properties and structural and functional state of the cell membranes. Synaptosome important element is the synaptic membrane with built inside protein molecules, receptors, neurotransmitters carriers and their predecessors, channel proteins, membrane-bound enzymes. The dynamics of its restructuring, above all, includes the functional characteristics of interneuronal contacts. Therefore, the obtained results also show a change of adrenergic regulation, which results in greater activation of α_1 -AR than β_1 -AR. This, in turn, could lead to violation effects to be realized by given subtypes of receptors. Adrenergic regulation functions of organs changes, by not only a change in the number or value of AR, but also because of the induction of changes in any process of receptor coupling intracellular structures [6, 7].

Conclusions and prospects of further re-searches:

1. Against the background of prolonged intoxication by MIM in a dose of 1/100 LD50 in synaptosomes in rat cerebral cortex the adrenoreceptors kinetic properties change evidenced by a decrease in dissociation constant and the maximum number of binding sites of 3H-WB4101 α_1 -subtype, increase the maximum number of binding sites 3H-dihydroalprenolol β_1 -subtype.

2. Changing the binding of selective ligands of adrenergic receptors in synaptosomes of rat cortex is one of the links of pathogenetic mechanism of membrane tropic MIM action necessary to consider during developing the means of correction.

References

1. Gruzeva T.S. Vpliv ekologichnih chinnikov na formuvannja global'nogo tjararja hvorob / T.S. Gruzeva // Naukovij visnik Nacional'nogo medicnogo universitetu im. O.O. Bogomol'cja. - 2010. - № 27. - S. 167-168.
2. Ksenobiotiki: nakopichennja, detoksikacija ta vivedennja z zhivih organizmiv / [B.O. Cudzevich, O.B. Stoljar, I.V. Kalinina ta in.]. – Ternopil' : Vidavnictvo TNTU im. I. Puljuja, 2012. – 384 s.
3. Maksimova I.G. Mikrov'jaskist' membran klitin krovi shhuriv za dii imidazolinvmisnih organichnih sumishej / I.G. Maksimova // Zdobutki klinichnoi ta eksperimental'noi medicini : Pidsumkova naukovopraktichna konferencija : Mat. konf. – Ternopil', 2013. – S. 163-164.
4. Maksimova I.G. Fosfolipidnij sklad membran eritocitiv shhuriv za umov vplivu imidazolinvmisnih organichnih sumishej / I.G. Maksimova // Dovkillja ta zdorov'ja : Naukovo-praktichna konferencija : Mat. konf. – Ternopil', 2013. – S. 112-114.
5. Monoaminergichni mehanizmi potencijnoi sudomnoi gotovnosti golovnog mozku / [V.V. M'jasoedov, V.I. Zhukov, V.G. Gopkalo ta in.]. – H. : HDMU, 2000. – 222 s.
6. Cergeev P.V. Receptory fiziologicheski aktivnyh veshhestv / P.V. Sergeev, N.L. Shimanovskij. – M. : Medicina, 1987. – 400 s.
7. Huho F. Neirohimija / F. Huho. – M. : Mir, 1990. – 384 s.
8. Jekologo-gigienicheskaja charakteristika azotsoderzhashhih poverhnostno-aktivnyh veshhestv kak zagrijaznitelej vodoemov / [V.I. Zhukov, V.V. Mjasoedov, S.A. Stecenko i dr.] ; pod red. V.I. Zhukova. – H. : Tornado, 2000. – 180 s.
9. Bajpai D. Fatty imidazolines, chemistry, synthesis, properties and their industrial application / D. Bajpai, V.K. Tyagi // Journal of Oleo Science. – 2006. – Vol. 55, № 7. – P. 319-329.
10. Bylund D.B. Beta-adrenergic receptor binding in membrane preparations from mammalian brain / D.B. Bylund, S.H. Snyder // Mol. Pharmac. - 1979. - Vol. 12. - P. 568-580.
11. Hajos F. An improved method for preparation of synaptosomal fractions in high purity / F. Hajos // Brain Res. – 1975. – Vol. 93. - P. 485-489.
12. Rosenthal H.E. A graphic method for the determination and presentation of binding parameters in a complex system / N.E. Rosenthal // Analytical Biochem. – 1967. – Vol. 20. – P. 525-532.
13. Tyagi R. Imidazoline and its derivatives: an overview / R. Tyagi, V.K. Tyagi, S.K. Pandey // Journal of Oleo Science. – 2007. – Vol. 56, № 5. – P. 211-222.
14. U'Prichard D. Binding characteristics of a radiolabeled agonist and antagonist of central nervous system alpha-noradrenergic receptors / D. U'Prichard, D. Greenberg, S.H. Snyder // Molec. Pharmac. – 1977. – Vol. 13. – P. 454-473.

PECULIARITIES OF ANATOMICAL STRUCTURES OF BUCCAL AREA IN PRENATAL PERIOD OF HUMAN ONTOGENESIS

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Key words: buccal area, topographical anatomy, fetus.

In order to study structural features of the anatomical structures of buccal area in fetal period of human ontogenesis, 26 human fetus specimens of 136,0-375,0 mm parietal-coccygeal length (5-10 months of intrauterine life) were investigated using macroscopy, microscopy, morphometry, three-dimensional computer reconstruction and statistical analysis. We found the mimic muscles and superficial musculoaponeurotic system function as a single unit to ensure the movements of face skin by vertical fibrous membranes between these structures. The superficial fascia is a dense and thick around the parotid gland, and is quite noticeable in the temporal region (temporo-parietal fascia). The superficial facial fascia in the buccal region is a surface layer enveloping the facial muscles (platysma, orbicularis oculi, large and small zygomatic and risorius), branches of the facial nerve and parotid duct. In buccal region we found mainly loose connections between the superficial and proper fascias, and in the superior, anterior and inferior borders within these regions the fascias were tightly fused. The supporting ligaments of face may be true osteo-cutaneous ligaments (eg, zygomatic and mandibular ligaments) or in the form of adhesions between the superficial and proper fascias of the face (parotid-cutaneous, masseter-cutaneous ligaments).

References

1. A review of the gross anatomy, functions, pathology, and clinical uses of the buccal fat pad / S. Yousuf, R.S. Tubbs, C.T. Wartmann [et al.] // Surg. Radiol. Anat. – 2010. – Vol. 32. – № 5. – P. 427-436.

2. Olijnyk I. Yu. Variantna anatomaja zyrovoho tila stchoky u plodiv ljudyny / I.Yu. Olijnyk, I.V. Martseniak, L.P. Lavriv // *Visnyk problem biologii ta medycyny*. – 2013. – Vyp. 4, tom 2 (105). – S. 205–208.
3. Morphological study of the parotid duct in human fetuses with special emphasis on the relationship between the buccinator muscle and the parotid duct / K. Amano, H. Moriyama, K. Shimada [et al.] // *J. Med. Invest.* – 2009. – Vol. 56. – P. 255–257.
4. Morphological study of the fetal parotid duct and buccinator muscle and the relationship to salivary secretion / K. Amano, H. Mori-yama, K. Shimada [et al.] // *Clinical Anatomy*. – 2010. – Vol. 23. – № 6. – P. 642–648.
5. Martseniak I.V. Anatomitsheskije osobennosti okolouschnoho protoka v stchjochnoj oblasti u plodov cheloveka / I.V. Martseniak // *Batys Kasakstan medycyna zurnaly*. – 2013. – T. 10, № 1 (37). – S.77–79.
6. Localization of the marginal mandibular branch of the facial nerve / C. Saylam, H. Ucerler, M. Orhan [et al.] // *Journal of Craniofacial Surgery*. – 2007. – Vol. 18. – № 1. – P. 137–142.
7. Anatomic landmarks of the buccal branches of the facial nerve / C. Saylam, H. Ucerler, M. Orhan [et al.] // *Surgical and Radiologic Anatomy*. – 2006. – Vol. 28. – № 5. – P. 462–467.
8. Biomechanical properties of the facial retaining ligaments / M.G. Brandt, A. Hassa, K. Roth [et al.] // *Arch. Facial Plast. Surg.* – 2012. – Vol. 14. – № 4. – P. 289–294.
9. The surgical anatomy of the parotid fascia / L. Ramsaroop, B. Singh, L. Allopi [et al.] // *Surgical and Radiologic Anatomy*. – 2006. – Vol. 28. – № 1. – P. 33–37.
10. New anatomical insights on the course and branching patterns of the facial artery: clinical implications of injectable treatments to the nasolabial fold and nasojugal groove / H.M. Yang, J.G. Lee, K.S. Hu [et al.] // *Plastic and reconstructive surgery*. – 2014. – Vol. 133. – № 5. – P. 1077–1082.
11. Mirilas P. Developmental Anatomy (Embryogenesis) for the Surgeon / P. Mirilas // *The American Surgeon*. – 2011. – Vol. 77. – № 9. – P. 1230–1242.
12. Martseniak I.V. Suchasni ujavlennja pro anatomiju stchichnoji diljanky ljudyny ta perspektyvy jiji doslidzennja / I.V. Martseniak // *Biomedical and Biosocial Anthropology*. – 2012. – № 2 (19). – C. 278–281.
13. Zoumalan R. A. Facial flap complications / R. A. Zoumalan, C. S. Murakami // *Facial. Plast. Surg.* – 2012. – Vol. 3. – № 28. – P. 347–353.
14. Mischalov V.D. Dotrymannja etychnych ta zakonodavchych norm i vymoh pry vykonanni naukovych morfologichnych doslidzen' / V.D. Mischalov, Yu.B. Chajkovc'kyj, I.V. Tverdochlib. – Kyiv, 2007. – 76 s.
15. Kabak S.L. Fascii i kletchatochnuje prostranstva schei / S.L. Kabak, S.D. Denisov // *Zdravoochranenije*. – 2014. – № 7. – S. 16–22.

INFLUENCE OF ANGIOLIN, IRBESARTAN, QUINAPRIL AND ITS COMBINATION ON ADENYL NUCLEOTIDES AND HEAT SHOCK PROTEINS CONTENTS, AND MITOCHONDRIAL FUNCTION

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Key words: angiotensin, quinapril, irbesartan, hypertension, heat shock proteins, adenine nucleotides, the mitochondria.

In spontaneous hypertension the disorders of myocardial contractility are often associated with metabolic and morphological changes, which develop due to oxidative stress. We used 8 normotensive albino male rats weighing 220-270 g and 48 male rats with spontaneous hypertension (SHR) weighing 220-300 g. Before the introduction of drugs we measured blood pressure by plethysmography in rats of all groups. In the myocardium of normotensive rats and animals with spontaneous hypertension we assessed the degree of opening of mitochondrial pore (MP), the content of adenine nucleotides, concentration of HSP70 protein in the mitochondrial and cytosolic fractions of rat myocardium according to methodical instructions of the Ministry of the Health of Ukraine. Within three months the animals were administered angiotensin, quinapril, irbesartan and their combinations under the blood pressure control. In the myocardium of rats with spontaneous hypertension (SHR) we found MP; the mitochondrial fraction of homogenate of rat heart in spontaneous hypertension showed a significant decrease in the level of ATP and protein HSP70 in the mitochondrial and cytosolic fractions of cardiomyocytes. Thus, we found the mitochondrial dysfunction of cardiomyocytes developed in the myocardium of the rats with spontaneous SHR line hypertension that was caused by oxidative modification of protein structure in terms of activation of mitochondrial oxidative stress as our previous reports demonstrated. We also found out a decrease in the level of HSP70 in the cytosolic and mitochondrial fractions of myocardial spontaneously hypertensive rats that was one of the causes of mitochondrial dysfunction. Angiotensin and, more often, its combinations

with irbesartan and quinapril reduce the phenomenon of mitochondrial dysfunction, normalizing the optical density of suspensions of mitochondria. In the mitochondrial and cyto-plasmic fractions of cardiomyocytes angiotensin II and its combination with irbesartan and quinapril raise the level of ATP and a protein concentration of HSP70 that confirms the mitoprotective effect produced by angiotensin II and its combinations with ACE inhibitor, quinapril, and angiotensin-receptor blocker of irbesartan-II in arterial hypertension.

References

1. Belenichev I.F. Soedinenie L-lizina v farmakokorrekcii narushenij jenergeticheskogo metabolizma golovnogogo mozga pri modelirovanii gemorragicheskogo insulta / I.F. Belenichev, A.A. Egorov // *Farmakologija ta likars'ka toksikologija*. – 2013. – № 6. – S. 3-8.
2. Belenichev I.F. Mitohondrial'naja disfunkcija pri cerebral'noj patologii. Nejroprotekcija Cerebrokurinom / I.F. Belenichev, Ju.M. Kolesnik, S.V. Pavlov [i dr.] // *Mezhdunarodnyj nevrologicheskij zhurnal*. – 2008. – № 4 (20). – S. 23–29.
3. Belenichev I.F. Nejroprotekcija i nejroplastichnost' / [I.F. Belenichev, V.I. Chernyj, E.A. Nagornaja i dr.]. – K. : Logos, 2015. – 512 s.
4. Egorov A.A. Sostojanie jenergeticheskogo obmena pri ostrom narushenii mozgovogo krovoobrashhenija i ego moduljacija proizvodnymi L-lizina / A.A. Egorov, I.F. Belenichev, I.A. Mazur [i dr.] // *Patologija*. – 2010. – T. 7, № 1. – S. 50–52.
5. Kamysnyj A.M. Belki teplovogo shoka: struktura, shaperogennye funkcii, antiapopticheskie jeffekty, mehanizmy uchastija v patogeneze autoimunnyh zabojevanij / A.M. Kamysnyj, Ju.M. Kolesnik, A.V. Abramov [i dr.] // *Zaporozhskij medicinskij zhurnal*. – 2008. – T. 51, № 6. – S. 39–47.
6. Nagorna O.O. Vpliv angiotenzinu, irbesartanu, kvinaprilu ta ih spoluchennja na pokazniki oksidjuval'noji modifikacii bilkiv kardiomiocitiv shhuriv pri arterial'nij gipertenzii / O.O. Nagorna, I.S. Chekman, I.F. Belenichev [ta in.] // *Visnik problem biologii ta medicini*. – 2015. – Vip.2, T.4 (121). – S. 161–164.
7. Nikitin K.D. Belki teplovogo shoka: biologicheskie funkcii i perspektivy primenenija / K.D. Nikitin // *Klinicheskaja onkogematologija*. – 2008. – T. 1, № 2. – S. 125–130.
8. Postnov Ju.V. Nedostatochnost' obrazovanija ATF v svjazi s kal'cievoj peregruzkoj mitohondrij kak istochnik povysšenija arterial'nogo davlenija pri pervichnoj gipertenzii / Ju.V. Postnov // *Kardiologija*. – 2005. – T. 55, № 10. – S. 4–11.
9. Radchenko A.D. Nuzhny li spory na temu: luchshe sartany ili inhibitory APF? (chast' 1) / A.D. Radchenko // *Arterial'naja gipertenzija*. – 2014. – № 2. – S. 97–111.
10. Sirenko Ju.M. Gipertonichna hvoroba i arterial'ni gipertenzii / Ju.M. Sirenko. – Donec'k : Vidavec' Zaslavskij O.Ju., 2011. – 304 s.
11. Strutinskaja N.A. Pidvisshena chutlivist' mitohondrial'noi pori do Ca^{2+} u serci shhuriv zi spontannoju gipertenzieju / N.A. Strutinskaja, N.O. Dorofeeva, G.L. Vavilova, V.F. Sagach // *Fiziol. zhurnal*. – 2012. – T. 52, № 6. – S. 3–8.
12. Sudakov N.P. Mitohondrial'naja disfunkcija v mehanizmah aterogeneza / N.P. Sudakov, S.B. Nikiforov, Ju.M. Konstantinov [i dr.] // *Bjulleten' VKNC SO RAMN*. – 2007. – № 2 (54). – S. 119–123.
13. Chekman I.S. Doklinicheskoe izuchenie aktivnosti potencial'nyh nejroprotektivnyh preparatov. Metodicheskie rekomendacii / [I. S. Chekman, Ju.I. Gubskij, I.F. Belenichev i dr.]. – K, 2010. – 81 s.
14. 2013ESH/ESC Guidelines for the management of arterial hypertension. The task force for management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC) // *Journal of hypertension*. – 2013. – Vol. 31. – P. 1281–1357.
15. Ajith T.A. Mitochondria-targeted agents: Future perspectives of mitochondrial pharmaceuticals in cardiovascular diseases / T.A. Ajith, T.G. Jayakumar // *World J. Cardiol*. – 2014. – Vol. 6, № 10. – P. 1091–1099.
16. Belenichev I.F. Malate-aspartate shuntin neuronal adaptation to ischemic conditions: molecular-biochemical mechanisms of activation and regulation / I.F. Belenichev, Yu.M. Kolesnik, N.V. Bukhtiyrova, S.V. Pavlov // *Neurochemical Journal*. – 2012. – Vol. 29, №1. – P. 28–34.
17. Belenichev I.F. The endothelium-protective effect of 3-methyl-1,2,4-triazol-5-thioacetate (S)-2,6-diaminohexanoic acid (Lysine): effect in the expression of Vascular Endothelial Growth Factor (VEGF) and the characteristics of the endothelial cells of the cerebral vessels of animals with cerebral ischemia / I.F. Belenichev, I.A. Mazur, A.V. Abramov [et al.] // *Neuro-chemical journal*. – 2013. – Vol. 7, № 4. – P. 296–302.
18. Bramlage P. The value of irbesartan in the management hypertension / P. Bramlage, J. Durand-Zaleski, N. Desai [et al.] // *Expert. Opin. Pharmacother*. – 2009. – Vol.10. – P. 1817–1831.
19. Davis L.L. Hypertension guidelines: Evidence-based treatments for maintaining blood pressure control / L.L. Davis // *Nurs Pract*. – Vol. 40, № 6. – P. 32–37.
20. Franklin S.S. Masked hypertension: a phenomenon of measurement / S.S. Franklin, E.O. Brien, L. Things [et al.] // *Hypertension*. – 2015. – Vol. 65. – P. 16–20.

21. Grassi G. Blood pressure control and cardiovascular risk profile in hypertensive patients from central and eastern European countries: results of the BP-CARE study / G. Grassi, R. Ciflova, S. Lattrent [et.al.] // *Eur. Heart J.* – 2011. – Vol. 32. – P. 218–225.
22. Hammerling B.C. Mitochondrial quality control in the myocardium: cooperation between protein degradation and mitophagy / B. C. Hammerling, Å. B. Gustafsson // *J. Mol. Cell. Cardiol.* – 2014. – Vol. 75. – P. 122–130.
23. Harada Y. Sulfatide-HSP70 interaction promotes HSP70 clustering and stabilizes binding to unfolded protein / Y. Harada, C. Sato, K. Kitajima // *Biomolecules.* – 2015. – Vol. 5, № 2. – P. 958–973.
24. Hollander J.M. Physiological and structural differences in spatially distinct subpopulations of cardiac mitochondria: influence of cardiac pathologies / J. M. Hollander, D. Thapa, D. L. Shepherd // *Am. J. Physiol. Heart. Circ. Physiol.* – 2014. – Vol. 307, № 1. – P. 1–14.
25. Milane L. Mitochondrial biology, targets, and drug delivery / L. Milane, M. Trivedi, A. Singh [et al.] // *J. Control. Release.* – 2015. – Vol. 207. – P. 40–58.
26. Mogk A. Cooperation of Hsp70 and Hsp100 chaperone machines in protein disaggregation / Mogk A., Kummer E., Bukau B. [et al.] // *Front. Mol. Biosci.* – 2015. – Vol. 2. – e22.
27. Oparil S. New approaches in the treatment of hypertension / S. Oparil, R. E. Schmieder // *Circ. Res.* – 2015. – Vol. 116, № 6. – P. 1074–1079.
28. Pérez-Escamilla B. Identification of validated questionnaires to measure adherence to pharmacological antihypertensive treatments / B. Pérez-Escamilla, L. Franco-Trigo, J.C. Moullin [et al.] // *Patient Prefer Adherence.* – 2015. – Vol. 9. – P. 569–578.
29. Ran R. HSP70 promotes TNF-mediated apoptosis by binding IKK gamma and impairing NF-kappa B survival signaling / R. Ran, A. Lu, L. Zhang [et al.] // *Genes Develop.* – 2004. – № 18. – P. 1466–1481.
30. Roy M. Mitochondrial division and fusion in metabolism / M. Roy, P.H. Reddy, M. Iijima, H. Sesaki // *Curr. Opin. Cell. Biol.* – 2015. – Vol. 33. – P. 111–118.
31. Stassen J.A. Evidence that new antihypertensives are superior to older drugs / J.A. Stassen, W.H. Birkenhager // *lancet.* – 2005. – Vol. 36. – P. 869–871.
32. Zhang Y. Dendritic-tumor fusion cells derived heat shock protein70-Peptide complex has enhanced immunogenicity / Y. Zhang, Y. Zhang, J. Chen // *PLoSOne.* – 2015. – Vol. 10, № 5. – e0126075.
33. Zhang Y. Enhanced antitumor immunity of nanoliposome-encapsulated heat shock protein 70 peptide complex derived from dendritic tumor fusion cells / Y. Zhang, W. Luo, Y. Wang [et al.] // *Oncol.Rep.* – 2015.– Vol. 33, № 6. – P. 2695–2702.

MORPHOFUNCTIONAL PECULIARITIES OF SUBLINGUAL GLAND IN 70 DAYS OF MODELLED DIABETES MELLITUS

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Key words: sublingual gland, mucocytes, diabetes mellitus.

It is known that diabetes mellitus results in malfunction of salivary glands that, in turn, leads to hyposalivation and xerostomia. However, changes in the morphofunctional state of the sublingual gland in this disease were out of sight of researchers. Therefore, the aim of this study was to determine the characteristics of morphofunctional state of mucosal sublingual gland of rats on the 70th day of modelled diabetes. Material and methods. The study was carried out on male Wistar rats, which were modelled streptozotocin-induced diabetes. Sublingual gland was studied by histological sections stained with haematoxylin and eosin. We determined the area of mucocytes and their nuclei. Statistical data processing was carried out by R. Results. On the 70th day of the experiment we revealed a decrease in the area of mucocytes and their nuclei, as well as carried out cluster population analysis of the cells. This enabled to identify groups (clusters) of mucocytes corresponding to the various phases of the secretory cycle, and to determine the changes of their metric parameters compared to the control. Conclusions. In 70 days of experimental diabetes we noticed: 1) reducing the size of mucocytes and their nuclei that indicates a reduction of their secretory activity of the sublingual gland; 2) increase the proportion of mucocyte cluster 1, i.e., cells which absorb and secret derived products for the synthesis, up to 40% and reduced to 13.33%, the share of cell cluster 3 made up of mucocytes which are ready for release secretion. It indicates the impairment of the trophism of secretory cells and processes of secretion synthesis. The results reflect the morphofunctional state of mucocytes of sublingual gland and will serve as the initial data for searching methods to correction in this pathology.

References

1. Blishhak N. B. Diabetichni angiopatii / N. B. Blishhak // Klinichna anatomija ta operativna hirurgija. – 2012. – T. 11, № 2. – C. 16–19.
2. Kotik T. L. Morfometrichnij analiz parenhimi pidnizhn'oshhelepnoï zalozi intaktnih shhuriv z vikoristannjam metodiv bagatovimirnoï statistiki / T. L. Kotik // Svit medicini ta biologii. – 2015. – № 1 (48). – S. 138–142.
3. Kotik T. L. Morfometrichnij i klasternij analiz perebudovi kincevih viddiliv pidnizhn'oshhelepnoï zalozi shhura pri streptozotocinovomu diabete / T. L. Kotik // Aktual'ni pitannja medichnoï nauki ta praktiki. – 2015. – № 82, T. 1, Kn. 2. – S. 97 – 105.
4. Sarkisov D. S. Mikroskopicheskaia tehnika / D. S. Sarkisov, Ju. L. Perova. – M. : Medicina, 1996. – 544 s.
5. IDF Diabetes Atlas update poster/ International Diabetes Federation. – 6th edn. – Brussels, Belgium: International Diabetes Federation, 2014. – P. 2.
6. R Core Team. R: A Language and Environment for Statistical Computing. 2015. Rezhim dostupu: <http://www.r-project.org/>.
7. Schneider C. A. NIH Image to ImageJ: 25 years of image analysis / C. A. Schneider, W. S. Rasband, K. W. Eliceiri // Nature Methods. – 2012. – Vol. 9, № 7. – P. 671-675.
8. Lamster I. B. The relationship between oral health and diabetes mellitus / I. B. Lamster, L. Evanthia, W. S. Borgnakke, G. W. Taylor // JADA. – 2008. – Vol. 139. – P. 19–24.

AGE-RELATED STRUCTURAL CHANGES IN HEMOCAPILLARIES OF SUBMANDIBULAR GLAND IN HYPERTENSION OF PULMONIC CIRCULATION

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Key words: submandibular gland, hemocapillaries, pulmonary hypertension.

Morphological methods were used to study structural changes in the hemocapillaries of submandibular gland under hypertension in pulmonic circulation, which leads to narrowing of the hemocapillary lumens, impairing blood rheology, and endothelial dysfunction. More pronounced structural changes in hemocapillaries of submandibular gland prevailed in old animals.

References

1. Avtandilov G.G. Osnovy kolichestvennoj patologicheskoi anatomii / G.G. Avtandilov. – M. : Medicina, 2002. – 240 s.
2. Amosova K.M. Klinichnij perebig ta stan miokarda z hronichnim legenevim sercem unaslidok hronichnoï obstruktivnoï patologii legen' zalezno vid najavnosti legenevoi gipertenzii / K.M. Amosova, L.F. Konopl'ova, I.D. Mazur // Serce i sudini. – 2009. – № 2. – S. 48–52.
3. Bozhenkova M.V. Stromal'no-parenhimatoznye otnoshenija v podnizhnecheljustnyh zhelezah belyh krys v razlichnye stadii peregrevanija organizma / M.V. Bozhenkova // Morfologija. – 2006. – T. 129. – № 4. – C. 24.
4. Gerasimov A.V. Stroenie podnizhnecheljustnyh zhelez pri vozdejstvii sveta i radiacii v jeksperimente / A.V. Gerasimov, S.V. Logvinov, V.P. Kostjuchenko // Morfologija. – 2006. – T. 130, № 5. – S. 35-36.
5. Gnatjuk M.S. Sekretorna aktivnist' kardiomiocitiv peredserd' pri legenevomu serci / M.S. Gnatjuk, L.V. Tatarchuk, S.O. Konovalenko, O.B. Jasinovskij // Galic'kij likars'kij visnik. – 2010. – № 2. – S. 46–48.
6. Kosharnij V.V. Viktoristannja novitnih tehnologij v morfologichnih doslidzhennjah / V.V. Kosharnij // Visnik problem biologii i medicini. – 2009. – Vip. 3. – S. 135-139.
7. Skiba A.V. Sostojanie processov svobodno-radikal'nogo okislenija lipidov v slizistoj obolochke polosti rta i bol'shih sljunnyh zhelezah v dinamike razvitija alloksanovogo diabeta / A.V. Skiba, K.N. Kosenko, T.P. Tereshina, L.N. Rossahanova // Visnik stomatologii. – 2005. – № 1. – S. 23-26.
8. Izotova E.V. Ul'trastruktura jendotelocitov krovenosnyh kapillarov podnizhnecheljustnoj sljunnoj zhelezy i slizistoj obolochki desny v uslovijah deficita jestrogenov / E.V. Izotova, A.Ju. Kozlova, T.G. Petrova, [i dr.] // Vestnik NGU. – 2006. – T. 4, № 2. – S. 84-89.
9. Shestakova M.V. Disfunkcija jendotelija pricina ili sledstvie metabolicheskogo sindroma? / M.V. Shestakova // RMZh. – 2001. – № 9. – S. 88.
10. Abert O.A. Xerostomia. Causes and effect / O.A. Abert // J. Prosthet. Dent. – 2006. – Vol. 84, № 1. – P. 77-81.
11. van Nieuw Amerongen G.P. Simvastatin improves disturbed endothelial barrier function / G.P. van Nieuw Amerongen, M.A. Vermeer, P. Negre-Aminou [et al.] // Circulation. – 2010. – Vol. 102 (23). – P. 2803–2809.

STUDY OF ANTINOCICEPTIVE AND ANTIEXUDATIVE EFFECTS PRODUCED BY EXTRACTS FROM IRIS CARTHALINIAE AND IRIS MEDWEDEWII

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Key words: antinociceptive and analgesic activity, thick extracts from *Iris carthaliniae* and *Iris Medwedewii*.

This paper describes the study of the antinociceptive and antiexudative effects produced by the extracts obtained from rhizomes *Iris carthaliniae*. These extracts taken in a dose of 0.2ml per 100g of body weight of rats caused a decrease of excitability of visceral nociceptors and reduced exudation by 14.6%. In a dose 0.3 ml per 100 g of body weight of rats these extracts caused a decrease of amount of acetic writhing by 18.3%. The greatest antinociceptive effect was showed by applying the extraction from the *Iris carthaliniae* in a dose of 0.4 ml. The extract from the rhizomes *Iris carthaliniae* in a dose of 0.2ml caused a decrease in the modelled paw edema in rats by 17.8%. The greatest anti-exudative effect produced by this extract was registered in a dose of 0.4 ml per 100 g body weight in rats, when inhibiting the development of carrageenan paw edema in rats by 30.7%. Given in a dose of 0.5 ml, it caused a decrease of the experimental paw edema in rats by 27.4%. Reference drugs as diclofenac sodium in a dose of 8 mg/kg reduced the development of carrageenan paw edema in rats by 47.4%. It can be suppose that the anti-inflammatory effect of thick extracts from the rhizomes of *Iris Carthaginiana* and *Iris Medwedewii* is mainly associated with the flavonoids and essential oils in their chemical composition.

References

1. Vinogradova T.A. Polnaja jenciklopedija prakticheskoj fitoterapii / T.A. Vinogradova, B.N. Gazhev, V.M. Vinogradov, V.K. Martynov // M.: «OLMA-PRESS»; SPb, 1998. – S. 18-62.
2. Doklinichni doslidzhennja likars'kih zasobiv / Pod red. O.V. Stefanova. – K.: Avicena, 2001. – 528 s.
3. Zatylnikova O.A. Komponentnyj sostav jefirnyh masel *Iris pseudacorus* (Iridaceae) / O.A. Zatylnikova, V.N. Kovalev, S.V. Kovalev // Rastitel'nye resursy. – 2013. – T. 49, Vyp. 2. – S. 233-240.
4. Isaev D.I. Ksantony kornevishh *Iris imbricata* Lindl i *Iris pseudacorus* L. / D.I. Isaev, Ju.B. Karimov, S.V. Kovalev, O.A. Zatylnikova // Farmakom. – 2009. – № 1. – S. 24-28.
5. Isaev D.I. Izoflavonoidy kornevishh *Iris imbricata* Lindl i *Iris pseudacorus* L. / D.I. Isaev, Ju.B. Karimov, S.V. Kovalev, O.A. Zatylnikova // Farmakom. – 2010. – № 1. – S. 38-42.
6. Lapach S.N. Osnovnye principy primeneniya statisticheskikh metodov v mediko-biologicheskikh issledovanijah s ispol'zovaniem EXCEL / S.N. Lapach, A.V. Chubenko, P.N. Babich – Kiev: MORION, 2000. – 320 s.
7. Mashkovskij M.D. Lekarstvennye sredstva / M.D. Mashkovskij. – 15-e izd., pererab., ispr. i dop. – M.: OOO Izd-vo Novaja volna, 2008. – 1206 s.
8. Nasonov E.L. Primenenie nesteroidnyh protivovospalitel'nyh preparatov / E.L. Nasonov // Rossijskij medicinskij zhurnal. – 2002. – T. 10, № 4. – S. 206-212.
9. Sorockaja V.N. Zheludochno-kishechnye oslozhnenija kak odna iz prichin smerti bol'nyh revmaticheskimi zabolevanijami / V.N. Sorockaja, A.E. Karateev // Nauchno-prakticheskaja revmatologija. – 2005. – № 4. – S. 34-37.
10. Bassar K. Composition of volatiles from three *Iris* species of Turkey / K. Bassar, B. Demirci, I.E. Orhan [et al.] // J. Essent. Oil Res. – 2011. – № 23 (4). – P. 66-71.
11. Crofford L.J. Basic biology and clinical application of specific cyclooxygenase-2 inhibitors / L.J. Crofford, P.E. Lipsky, P. Brooks [et al.] // Arthritis Rheum. – 2000. – Vol. 43 – P. 4-13.
12. Deng G.B. Chemical composition and biological activities of essential oil from the rhizomes from *Iris bulleyana* / G.B. Deng, H.B. Zhang, H.F. Xue [et al.] // Agric. sci. China. – 2009. – № 8. – P. 691-696.
13. Fang R. Isolation and structure determination of triterpenes from *Iris tectorum* / R. Fang, P.J. Houghton, C. Luo [et al.] // Phytochemistry. – 2007. – Vol. 68. – P. 1242-1247.
14. Hacibekiroglu I. Antioxidant and anticholinesterase constituents from the petroleum ether and chloroform extracts of *Iris suaveolens* / I. Hacibekiroglu, U. Kolak // Phytotherapia Res. – 2011. – Vol. 25. – P. 522-529.
15. Kassak P. Secondary metabolites of the chosen *Iris* species // Acta univ. agric. et silvic. Mendel. Brun. – 2012. – LX, № 8. – P. 269-280.
16. Masferrer J.L. Selective regulation of cellular cyclooxygenase by dexamethasone and endotoxin in mice / J.L. Masferrer, B.S. Zweifel, K. Seibert [et al.] // J. Clin. Invest. – 2007. – Vol. 86. – P. 1375-1379.
17. Gislason G. Risk of death or reinfarction associated with the use of selective cyclooxygenase-2 inhibitors and nonselective nonsteroidal antiinflammatory drugs after acute myocardial infarction / G. Gislason, S. Jacobsen, J. Rasmussen [et al.] // Circulation. – 2006. – Vol. 113, № 25. – P. 2906-2913.

18. Crofford L.J. Thrombosis in patients with connective tissue diseases treated with specific cyclooxygenase 2 inhibitors: a report of four / L.J. Crofford, J.C. Oates, W.J. Cune [et al.] // *Arthritis Rheum.* – 2000. – Vol. 43. – R. 1891-1896.

19. Wolfe M. Gastrointestinal toxicity of nonsteroidal antiinflammatory drugs / M. Wolfe, D.R. Lichtenstein, G. Sinhg. N. Eng // *J. Med.* – 1999. – Vol. 24. – R. 1888-1899.

MORPHOLOGICAL AND FUNCTIONAL FEATURES OF ADRENAL CORTEX IN RATS FOETUSES UNDER EFFECT OF CHRONIC INTRAUTERINE HYPOXIA

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Key words: adrenal gland, hypoxia, fetus, rat.

The present research was aimed at studying the impact of chronic hypoxia on adrenal status in rats' fetuses. During the experiment, test WAG rats were divided into 2 groups. Group 1, the control, included pregnant rats, which were not exposed to hypoxia, and females were euthanized in the later stages of gestation to take fetuses for further study. The second group involved pregnant rats exposed to daily alpine hypoxia during all gestation period (21 days). The females of this group were decapitated at the end of gestation to take fetuses for further study. To simulate the alpine hypoxia we used a sealed pressure chamber, pumped the air and designed the condition of sudden drop in atmospheric pressure. Pregnant rats every day at the same time were placed for 20 minutes in conditions simulating the climbing to a height of 7,500 meters and under the pressure of 287 mm. Hg. The adrenal glands of rats' fetuses were examined by morphological, histological, and morphometric methods. We found chronic intrauterine hypoxia reduces the morphofunctional activity of both permanent and fetal zones of the adrenal cortex that is manifested by glomerular hyperplasia and hypoplasia of fetal zones, by cytolysis and resorption of spongy cells against the backdrop of proliferation of connective tissue in the beam area. And the hypertrophy of endocrinocytes in permanent cortex suggests the manifestation of compensatory and adaptive response.

References

1. Andreev A.V. Perinatal'naja gipoksija kak prichina patologicheskikh izmenenij nadpochechnikov plodov i novorozhdennyh / A.V. Andreev, G.I. Gubina-Vakulik // *Mezhdunarodnyj medicinskij zhurnal.* – 2013. – № 3. – S. 65-69.
2. Karpova I.Ju. Izuchenie vlijanija hronicheskoy gipoksii na techenie beremennosti i razvitie potomstva v jeksperimente / I.Ju. Karpova, V.V. Parshikov, A.A. Mironov [i dr.] // *Medicinskij al'manah.* – 2011. – № 6 (19). – S. 55-57.
3. Kondrat'eva M.V. Sostojanie central'noj gemodinamiki u zdorovyh novorozhdennyh detej i perenessih gipoksiju / M.V. Kondrat'eva, F.P. Romanjuk // *Vestnik Sankt-Peterburgskogo universiteta.* – 2008. – Ser. 11, Vyp. 4. – S. 181-189.
4. Krjuchkov A. I. Apoptoz: obshhebiologicheskij princip tipologii / A. I. Krjuchkov // *Aktual'nye voprosy patologicheskoy anatomii: materialy 5-j mezhregion.nauch.-prakt. konf. patologoanatomov Urala i zapadnoj Sibiri.*— Cheljabinsk, 2001.— S. 526-529.
5. Lipatov I.S. Ocenka stepeni tjazhesti placentarnoj nedostatochnosti u beremennyh / I.S. Lipatov, V.A. Mel'nikov, Ju.V. Tezikov // *Rossijskij vestnik akushera-ginekologa.* – 2008. – № 5. – S. 38-43.
6. Pat. na korisnu model' 88459 Ukraïna, MPK G09B 23/28. Sposib modeljuvannja vnutrishn'outroboj gipoksii z asfiksieju novonarodzenogo v pologah / V.D. Markovskij, I.V. Sorokina, G.I. Gubina-Vakulik, O.A. Omel'chenko, O.V. Khtenko, M.S. Miroshnichenko, O.M. Pliten' (UA). – № u 2013 13681; zajavl. 25.11.2013; opubl. 11.03.2014, Bjul. № 5.
7. Cherkesova D.U. Funkcional'nye izmenenija v sisteme mat'-plod pri jeksperimental'noj hronicheskoy nitritnoj gipoksii / D.U. Cherkesova, D.N. Magomedgadzhieva, A.I. Rabadanova // *Izvestija Samarskogo nauchnogo centra Rossijskoj akademii nauk.* – 2009. – T. 11, № 1 (5). – S. 934-937.
8. Ananth C.V. Epidemiology of preterm birth and its clinical subtypes / C.V. Ananth, A.M. Vintzileos // *Journal of Maternal-Fetal and Neonatal Medicine.* – Vol. 19, № 12. – R.773-782, 2006.
9. Beere H.M. Stress management—heat shock protein-70 and the regulation of apoptosis / H.M. Beere, D.R. Green // *Trends in Cell Biology.* – 2001. – Vol. 11, № 1. – R. 6-10.
10. Mateev S.N. Chronic hypoxia augments uterine artery distensibility and alters the circumferential wall stress-strain relationship during pregnancy / S.N. Mateev, R. Mouser, D.A. Young [et al.] // *Journal of Applied Physiology.* – 2006. – Vol. 100, № 6. – R. 1842-1850.

MORPHOLOGICAL STUDY OF THE EFFECTS OF CERTAIN TRACE ELEMENTS ON EMBRYOGENESIS AND ORGANOGENESIS IN RATS

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Key words: lead acetate, citrate, gold, silver citrate, cardiogenesis, hepatogenesis, embryogenesis.

The objective of the experimental work was to study the effect produced by low doses of lead acetate administered separately and lead acetate in combination with gold citrate or silver citrate on the general course of embryogenesis and organogenesis in rats. The separate introduction of lead acetate was revealed to cause embryotoxicity, cardiotoxicity and hepatotoxicity. Embryotoxicity was manifested by increasing embryonic mortality, negative impact on cardiogenesis was expressed by reducing the thickness of the compact myocardium of the ventricular walls, the thinning of the interventricular septa, and by the formation of additional anomalous tendon strings of atrioventricular valves. Hepatotoxicity was manifested by reducing the mass of fetal liver. The combined administration of lead acetate and gold citrate or silver citrate reduces the embryotoxicity, cardiotoxicity and hepatotoxicity of lead acetate for all the listed indices. The combined administration of citrate gold or silver prevents the negative impact of lead acetate.

References

1. Bilec'ka E.M. Tehnogenne navantazhennja vazhkimi metalami ta zmini glibokogo kisneвого statusu u vagitnih v umovah intensivnoï promislovoï zoni / E.M. Bilec'ka, K.V. Voronin, V.A. Potapov, T.V. Leshheva // *Medichni perspektivi*. – 2000. – T.5, № 1.- S.83-89.
2. Dinerman A.A. Rol' zagrjaznitelej okruzhajushhej sredy v narushenii jembrional'nogo razvitija / A.A. Dinerman. – M. : Medicina, 1980. - 191 s.
3. Dinerman A.A. Nakoplenie svinca v placente i jembrione pri ego vvedenii beremennym samkam / A.A. Dinerman, N.A. Rozhdestvenskaja, S.I. Hramova // *Svinec v okruzhajushhej srede (gigienicheskie aspekty)* M., 1978. – S. 63-65.
4. Moskalenko V.F. Nanotehnologii, nanomedicina, nanofarmakologija: stan, perspektivi naukovih doslidzhen', vprovadzhenija v medichnu praktiku / V.F. Moskalenko, L.G. Rozenfel'd, B.O. Movchan, I.S. Chekman // *I nac. kongr. «Chelovek i lekarstvo — Ukraina»*. — K., 2008. — C. 167–168.
5. Nanomateriali v biologii. Osnovi nanoveterinariï / [V. B. Borisevich, V. G. Kaplunenکو, Kosinov M.V ta in.] (red. prof. V. B. Borisevich, prof. V.G. Kaplunenکو). — K. : VD «Avicena», 2010. — 416 s.
6. Petrenko O.F. Rekomendacii shhodo zastosuvannja nanochastok Ag, Cu, Zn dlja likuvannja ran u sobak ta dlja profilaktiki gel'mintoziv tvarin / [O.F. Petrenko, V.B. Borisevich, O.O. Petrenko, K.G. Lopat'ko ta in.]. — K. : NUBiP Ukraïni, 2009. — 40 s.
7. Skal'nyj A.V. Diagnostika i profilaktika mikrojelementozov s uchetom rezul'tatov mediko-jekologicheskoy jekspertizy / V kn. Osnovy sistemnogo analiza v jekologo-gigienicheskikh issledovanijah / V.G. Majmulov, S.V. Nagornyj, A.V. Shabrov.— SPb. : SPb GMA im. I.I. Mechnikova, 2000. — S.175–200.
8. Chekman I.S. Nanofarmakologija / I.S. Chekman. — Kiïv : Zadruga, 2011. - 424 s.
9. Shatorna V.F. Modifikujucha dija dejakih mikroelementiv na toksichnist' acetatu svincju / V.F. Shatorna // *Visnik problem biologii i medicini*. — 2013. — Vip. 3, T.2. — S. 310-315.

MEDICAL ASPECTS OF ANIMALS' ADAPTATION TO EFFECTS PRODUCED BY XENOBIOTICS

Sherstyuk S. O., Nakonechnaya S.A., Zubova Ye.O., Nakonechniy Ye.V., Ivanenko M.O.

Key words: adaptive stress reactions, integrated physiological parameters, morphological picture of blood, surfactants, Wistar rats.

This article describes the study of adaptive abilities of animals developed in response to chemical stress factor in chronic experiments. White Wistar rats were administered aqueous solutions of surfactants in a dose of 1/100 and 1/10 DL50) per orally every day. As a result of the long-term experiment (45 days), persistent stabilization of integrated physiological functions of the test animals was achieved. This was found out by evaluating an increase of the body mass, mass coefficients of internal organs, haematological indices. Non-ionic surfactant had a milder effect on the body, the dose of 1 / 100DL50 produces almost no effect on the dynamics of the mass of white rats.

References

1. Elizarova O. N. Posobie po toksikologii dlja laborantov / O. N. Elizarova, L. V. Zhidkova, T. A. Kochetkova. — M. : Medicina, 1974. — 168 s.

2. Zovskij V. N. Rol' adaptacionno-prisposobitel'nyh mehanizmov v otvetnoj reakcii na stress / V. N. Zovskij, N. V. Zhukova, S. A. Usenko // Medicinskaja jekologija. Gigiena okruzhajushhej i proizvodstvennoj sredy. — Har'kov : HGMU, 2009. — S. 186-188.
3. Men'shikov V. V. Laboratornye metody issledovanija v klinike / V. V. Men'shikov — M. : Medicina, 1987. — 368 s.
4. Oktjabr'skij O. N. Redoks-reguljacija kletocnyh funkcij / O. N. Oktjabr'skij // Biohimija. — 2007. — T. 72, Vyp. 2. — S. 158—174.
5. Filaretova L. P. Stress v fiziologicheskikh issledovanijah. / L. P. Filaretova // Fiziologicheskij zhurnal. — 2010. — T. 96, № 9. — S. 924-935.
6. Allostatic Load. / A revive of the literature, 2012. // Canberra: Department of Veterans' Affairs. — 2012. — 93 p.
7. Juster R. Allostatic load biomarkers of chronic stress and impact on health and cognition / R. Juster, B. S. McEwen, S. J. Lupien // Neuroscience and Biobehavioral Review. — 2009. — V. 35. — P. 2—16.
8. Schulkin J. Rethinking Homeostasis: Allostatic Regulation in Physiology and Pathophysiology. / Schulkin J. — MIT Press, 2008. — 314 p.

STRUCTURING NEURONAL COMPLEXES OF HUMAN SPINAL CORD SEGMENTS IN PRENATAL ONTOGENESIS

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Key words: prenatal period, spinal cord, gray matter, neurons complex.

Introduction. During morphogenesis spinal cord in humans and animals underwent transformations of its structure that led to the formation of nuclei of gray matter.

The aim is to study the patterns of developmental and the structural organization of neural system segments of the spinal cord in humans during prenatal ontogenesis.

Objects and methods. This study was performed on 248 human embryos, whose fetal gestational period ranged from 4-5 weeks to 39-40 weeks. The material was taken in medical abortions or as a result of stillbirths in relatively healthy mothers, Vinnytsia regional morbid anatomy bureau and Vinnytsya maternity hospital. During the intrauterine developed there were no serious damaging factors produced by external and in-ternal environment. The study of embryos of 6-7th gestation weeks demonstrated neuroblasts in all segments within the spinal cord formed from mantle layer. In the apex and along the lateral edge of the plate there were basal cell clusters that differed relatively by large bright nucleus, which was surrounded by a narrow strip of cytoplasm. So, in this age of structuring the neural systems in separate groups in the anterior horns of segments starts developing. In 7-8 weeks the top of the anterior horn of thoracic segments was closer to the medial edge of the observed clusters motor neuroblasts that began forming separate neural complex. At 35-36 weeks there was a cluster of small cells that formed the anterior-lateral neurons complex of thoracic segments. In 8-9 weeks in front of the horns at thickened segments, two groups of neural systems, medial and lateral, were are clearly distinguished: Thus, lateral neurons in most cases complex were made of two groups: anterior- and posterior-lateral. It should be noted the third group with retro-posterior-lateral nucleus in this age period was not clearly found out, but at the back of the posterior portion of the neural complex there was no large concentration of relatively small motor neuroblasts. In 7-8 weeks intermediate-lateral neural complex started developing. In 8-9 weeks there was a group of neuroblasts accumulated medially of vegetative neuroblasts, creating intermediate-medial neural complex. At 9-10 weeks posterior at the base of the horn, close to the dorsal part of the centre canal, we observed clusters of small relatively neuroblasts that formed the core of the thorax, and were better expressed in the lower thoracic segments. The results of the study described enables to establish patterns of development and structuring of neural systems in the gray matter of the spinal cord of embryos and fetuses in human prenatal ontogenesis.

References

1. Burdej G.D. Spinnoj mozg / G.D. Burdej. — Saratov, 1984. — 236 s.
2. Egorova V.A. Morfologija bokovih rogov spinnogo mozga cheloveka v prenatal'nom periode razvitija : avtoref. dis. na soiskanie nauchnoj stepeni kand. med. nauk : spec. 14.00.02 «Anatomija cheloveka» / V. A. Egorova. — Dnepropetrovsk, 1975. — 25 s.
3. Krivec'kij V.V. Embriotopografija grudnih spinnomozgovih nerviv u rann'omu periodi ontogenezu ljudini / V.V. Krivec'kij, I.I. Krivec'ka, B.Ju. Banul // Trudy Krymskogo gosudarstvennogo medicinskogo universiteta im. S. I. Georgievskogo : Simferopol', 2010. — T. 146. — S. 41—44.

4. Leontjuk A.S. Dinamika morfogeneza grudnogo otdela spinnogo mozga u cheloveka i zhivotnyh / A.S. Leontjuk // Tez. dokl. VI nauchn. konf. po jevoljucionnoj fiziologii : Leningrad, 1972. – S. 127–128.
5. Sutulova N.S. Materialy po razvitiyu neyronov perednego roga spinnogo mozga cheloveka / N.S. Sutulova // Materialy nauchnoj konf. «Jembriogeneza organov cheloveka». - Volgograd, 1974. – S. 115–117.
6. Cang Ju-chuan. O komissural'nom jadre v krestcovom otdele spinnogo mozga cheloveka / Ju-chuan Cang // Arhiv anatomii, gistologii i jembriologii. – 1961. – № 10. – S. 41–43.
7. Shulejkina K.V. Nejronnye mehanizmy razvivajushhegosja mozga / K.V. Shulejkina. – Moskva. : Iz-vo "Nauka", 1979. – 260 s.
8. Beard R. Fetal Physiology and Medicine: The Basis of Perinatology / R. Beard, P. Nathanielsz. – New York, London : Marcel Dekker, 1984. – 825 p.
9. Brown A. G. Organization in the Spinal Cord / A. G. Brown. – Berlin, 1981. – 238 p.
10. Ernst L. Color atlas of fetal and neonatal histology / L. Ernst, E. Ruchelly, D. Huff. - New York, Heidelberg, London : Springer, 2011. – 399 p.
11. Eyre J.A. Development of the human spinal cord / J.A. Eyre, G.J. Clowry // Brain. – 2002. – № 9. – P. 2134–2136.

HUMANITARIAN PROBLEMS AND MEDICAL EDUCATION

MODEL TO IMPROVE THE MANAGEMENT OF HEALTHCARE INNOVATION SPHERE IN UKRAINE

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Key words: innovative activity in medicine, the system of accounting and monitoring of innovation, the conceptual basis of the construction of information system, forecasting of efficiency of information system, modelling of information system.

The aim of work was to substantiate the concept and principles for the development of the automated information system for registration and monitoring of innovations in the field of healthcare and medicine in Ukraine. This paper describes the necessity of to develop specialized information system for recording and monitoring of innovations in healthcare. We formulated basic principles that specialized information system of registration and monitoring of innovative health information should meet. They are the principles of systemacy, development, dynamism, compatibility, standardization and efficiency, data security and others, which together provide effective management of innovation. We suggested a functional scheme of the information system, determined the requirements to populate the database

References

1. Ekonomichno-pravovi teoretichni ta praktichni aspekti perehodu ekonomiki Ukraïni na innovacijnu model' rozvitku: monografija / [Orljuk O.P., Butnik-Sivers'kij O.B., Mironenko N.M. ta in.]; [pid red. O.B. Butnik-Sivers'kogo]. - K. : Lazurit- Poligraf, 2010. - 416 s.
2. Zakon Ukraïni «Pro naukovu i naukovo-tehnichnu dijalnist'» vid 13 grudnja 1991 roku № 1977-HII, (iz zminami) / Elektronnij resurs: zakon.rada.gov.ua/go/1977-12
3. Zakon Ukraïni «Pro zahist personal'nih danih» vid 01 chervnja 2010 roku № 2297-VI (iz zminami) / Elektronnij resurs: zakon.rada.gov.ua/go/2297-17
4. «Instrukcija pro porjadok pidgotovki ta provedennja z'izdiv, kongresiv, simpoziumiv ta naukovo-praktichnih konferencij ustanovami Ministerstva ohoroni zdorov'ja ta Akademii medichnih nauk Ukraïni», zatverdzhena Nakazom MOZ ta AMN Ukraïni vid 07.07.2006 r. № 450\42 «Pro zatverdzhennja instrukcii pro porjadok pidgotovki ta provedennja z'izdiv, kongresiv, simpoziumiv ta naukovo-praktichnih konferencij ustanovami Ministerstva ohoroni zdorov'ja Ukraïni ta Akademii medichnih nauk Ukraïni».
5. Nakaz MOZ Ukraïni vid 28.09.2012 r. №751 «Pro stvorennja ta vprovadzhennja mediko-tehnologichnih dokumentiv zi standartizacii medichnoï dopomogi v sistemi Ministerstva ohoroni zdorov'ja Ukraïni», zareestrovanih v Ministerstvi justicii Ukraïni 29.11.2012 r. za №№ 2001/22313, 2002/22314, 2003/22315, 2004/22316.
6. «Perelik naukoivoi (naukovo-tehnichnoï) produkcii, priznachenoï dlja vprovadzhennja dosjaghen' medichnoï nauki u sferu ohoroni zdorov'ja» vipusk 1, tomi:1,2.
7. Porjadok pidgotovki zasobiv naukoivoi komunikacii, zatverdzhenij MOZ Ukraïni 17.10.2006r.
8. Spil'nij Nakaz MOZ Ukraïni ta NAMN Ukraïni vid 13.11.2013 r. № 969/97 «Pro udoskonalennja vprovadzhennja dosjaghen' medichnoï nauki u sferu ohoroni zdorov'ja», zareestrovanih v Ministerstvi justicii Ukraïni 05.12.2013r. za № 2068/24600.

9. Chop'jak V.V. Innovacijni metodi vprovadzhenja rezultativ naukoivo dijat'nosti v praktichnu medicinu : metodichni rekomendacii, zatverdzeni MOZ Ukraïni / Chop'jak V.V., Gutor T.G., Fit'kalo O.S. – K., 2015- 32 s.

EVIDENCES TO IMPLEMENT THE COURSE «GROUNDS OF MEDICAL KNOWLEDGE» IN TEACHER-TRAINING INSTITUTIONS

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Key words: bases of medical knowledge, health protection of children, general health education and general healthcare competence.

This paper focuses on the main items of the curriculum «Grounds of medical knowledge». The research proves this discipline is of great importance for school teachers as it contributes to the development of their medical competence, helps to come into details of children physiology and to provide the safety of educational process .

References

1. Bikovs'ka L.B. Fizichna kul'tura – zasib formuvannja motivacij do pidvishhennja rivnja zdorov'ja ta vidmovi vid shkidlivih zvichok / L.B. Bikovs'ka, O.O. Babinec' // Problemi osviti: Nauk.-metod. zb. – K. : Institut innovacijnih tehnologij i zmistu osviti. - 2006. – Vip. 49. – S. 182-187.
2. Zubalij M. Zdorov'ja ditej – u nebezpeci / M. Zubalij, O. Leonov, N. Vasilishina // Fizichne vihovannja v shkoli. – 2006. - № 4. – S. 6-9.
3. Ionova O.M. Rozvitok zdorov'ja osobistosti cherez osvitu: dosvid val'dorfs'koï shkoli / O.M. Ionova // Pedagogika zdorov'ja : zbirnik naukovih prac' Vseukraïns'koï naukoivo-praktichnoï konferencii / za zagal'noju redakciju prof. O. M. Mikitka. – H. : HNPU im. G. S., 2011. – S. 13–21.
4. Osnovi medichnih znan' // Navchal'na programa. – Kiïv : Vid-vo NPU im. M.P. Dragomanova, 2009. – 14 s.
5. Plajtij P.D. Osnovi medichnih znan': pidruchnik / P.D. Plajtij, S.P. Pol'ova, L.S. Sokolenko, N.V. Gutareva; za red. S.P. Pol'ovoï. – Kam'janec'-Podil's'kij : PP «Medobori-2006», 2015. – 328 s.
6. Homich L. O. Profesijno-pedagogichna pidgotovka vchitelja pochatkovih klasiv : [monografija] / L. O. Homich. – K. : Magistr-S, 1998. – 201 s.

PRIORITIES AND PROSPECTS OF PHYSICAL CULTURE IN COMPREHENSIVE EDUCATIONAL INSTITUTIONS

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Key words: health, children and teenagers, improving programs, nonconventional methods, physical training, improvement, parents, teachers.

The article analyzes the state of sports and recreation activities in schools at the present stage. The necessity and relevance to improve health education is proved. This considerably depends on active position of schoolchildren and their parents, on the disease incidence rate, and changing special medical groups and a number of children involved. The result of the research demonstrated the nonconventional methods result in improving parameters characterizing the condition of cardio-respiratory functional system.

References

1. Bakiko I. V. Poednannja bazovoï i variativnoï chastin programi z fi-zichnoï kul'turi shkoljariv : avtoref. dis. na zdobuttja naukovogo stupenja kand. nauk z fiz. vihovannja i sportu : 24.00.02 «Fiz. kul'tura, fiz. vihovannja riznih grup naselennja» / I. V. Bakiko. - Lugans'k, 2007. — 17 s.
2. Butejko K. P. Metod Butejko. Opyt vnedrenija v medicinskuju praktiku / K. P. Butejko — M. : Patriot, 1990. — 223 s.
3. Eliseeva L. A. Podgotovka uchitelja fizicheskoi kul'tury k ispol'zovaniju netradicionnyh sredstv ozdorovlenija uchashhihsja na urokah i vo vneurochnoe vremja : dis. ... kand. ped. nauk : 13.00.08 / Eliseeva Ljudmila Aleksandrovna. — Barnaul, 2005. - 206 s.
4. Ivanova L. I. Pidgotovka majbutnih uchiteliv fizichnoï kul'turi do fizkul'turno-ozdorovchoï roboti z uchnjami zagal'noosvitnih navchal'nih za-kladiv : dis. ... kandidata ped. nauk : 13.00.04 «Teorija i

metodika fizicheskogo vospitaniya, sportivnoj trenirovki, ozdorovitel'noj i adaptivnoj fizicheskoj kul'tury» / Ivanova Ljubov Ivanivna. - K., 2007. - 376 s.

5. Kamen'shnikova G. A. Metodika ozdorovleniya v proces se fizicheskogo vospitaniya mladshih shkol'nikov s normal'nym i zamedlennym fizicheskim razvitiem : avtoref. dis. na soiskanie uchjonoj stepeni kand. ped. nauk : spec. 13.00.04 «Teoriya i metodika fizicheskogo vospitaniya, sportivnoj trenirovki, ozdorovitel'noj i adaptivnoj fizicheskoj kul'tury» / G. A. Kamenshnikova. - Cheljabinsk, 2001. - 19 s.

6. Mandrikov V. B. Vspomogatel'nye i netradicionnye sredstva v zanjatiyah special'nogo uchebnogo otdeleniya / V. B. Mandrikov, L. V. Salaznikova. - Volgograd : VolGMU, 1995. - 70 s.

7. Musharina Ju. Ju. Teoretichne obgruntuvannja kompleksnogo pidho-du do ozdorovlennja shkoljariv / Ju. Ju. Musharina // Pedagogika formuvannja tvorchoi osobistosti u vishnij i zagal'noosvitnij shkolah. - Zaporizhzhja : Klasičnij privatnij universitet, 2011. — Vip. 17 (70). - S. 213-218.

8. Omel'chenko S. O. Teoretichni ta metodichni osnovi vzaemodii soci-al'nih institutiv suspil'stva v formuvanni zdorovogo sposobu zhittja uchniv zagal'noosvitnih navchal'nih zakladiv : dis. ... doktora ped. nauk : 13.00.05 «Social'na pedagogika» / Omel'chenko Svitlana Oleksandrivna. - Lugans'k, 2008. - 431 s.

9. Rybalkina S. V. Vybor sredstv fizicheskoj pidgotovki shkol'nikov na osnove ucheta ih ozdorovitel'noj jeffektivnosti : avtoref. dis. na soiskanie nauchnoj stepeni kand. ped. nauk : spec. 13.00.04 «Teoriya i metodika fizicheskogo vospitaniya, sportivnoj trenirovki, ozdorovitel'noj i adaptivnoj fizicheskoj kul'tury» / S. V. Rybalkina. - Malahovka, 1996. - 18 s.

10. Subota N. P. Tehnologii ozdorovlennja : navch.-metod. posib. / N. P. Subota. - X. : HNPU im. G.S. Skovorodi, 2010. - 124 s.

LITERATURE REVIEWS

SYMPTOMATIC RENAL ARTERIAL HYPERTENSION IN PATIENTS WITH CYSTIC DISEASES OF KIDNEYS FACTORS OF GENESIS AND DIAGNOSTICS METHODS

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Key words: renal arterial hypertension, kidney cyst, dopplerography.

Recent researches enable to lay out the specifics of modern conception on the role of the cystic diseases of kidneys, their aetiology and the development of symptoms of renal arterial hypertension. The article deals with the situations that stipulate the correlation between kidneys and arterial hypertension. The types of renal hypertension and pathogenesis are described. Symptomatic arterial hypertension is proved to be observed in patients with renal cystic lesion with the occurrence rate of 20%. According to majority of researchers, the intensity of arterial hypertension directly depends on the dimensions of cyst that causes more evident compression of the kidney parenchyma. Dopplerography is a non-invasive method to determine a volumetric arterial renal blood flow of patients with cysts in kidneys against the background of arterial hypertension.

References

1. Almazov V.A. Arterial'naja gipertenzija i pochki / V.A. Almazov, E.V. Shljahto. - SPb. : Izd-vo SPbGMU im. akad. I.P. Pavlova, 1999. - 296 s.

2. Aljaev Ju.G. Diagnostika i lečenie zhidkostnyh obrazovanij poček i zabrjušinnogo prostranstva / Ju.G. Aljaev, V.A. Grigorjan, T.G. Markosjan. — Smolensk : Madzhenta, 2007. - 160 s.

3. Arabidze G.G. Gipertonicheskaia bolezni i počechnye gipertonii (strukturnoe i funkcional'nye issledovaniia poček s ispol'zovaniem dinamicheskoi komp'juternoi tomografii) / G.G. Arabidze, G.N. Pogrebnaja, R.I. Sokolova, O.A. Kozdoba / Kardiologija. - 1989. - № 11. - S. 53-56.

4. Vatazin A. V. Arterial'naja gipertenzija pri zabolevaniiah poček / A. V. Vatazin. — Moskva : MONIKI im. M. F. Vladimirovskogo, 2010. — 35 s.

5. Vardanjan T.D. Diagnosticheskoe znachenie ul'trazvukovogo skanirovaniia u bol'nyh s zabolevaniiami poček i nadpočechnikov, soprovozhdajushchimisja gipertenziej / T.D. Vardanjan, R.I. Megrelishvili // Krovoobrashchenie. — 1980. — T. 13, № 5. - S. 54-60.

6. Gapchenko N.D. Ul'trazvukovyie metody issledovaniia v ocenke krovotoka v počechnykh arteriiakh : avtoref. diss. na soiskanie nauchnoj stepeni kand. med. nauk : spec. 14.00.40 «Urologija» / N.D. Gapchenko. — Moskva, 1990. - 21 s.

7. Ignashin N.S. Invazivnye ul'trazvukovye vmeshatel'stva v diagnostike i lechenii urologicheskikh zabolevanij : avtoref. diss. na soiskanie nauchnoj stepeni doktora med. nauk : spec. 14.00.40 «Urologija» / N.S. Ignashin. – Moskva, 1989. – 44 s.
8. Komjakov B.K. Arterial'naja gipertenzija, vyzvannaja kistoj pochki nebol'shih razmerov / B.K. Komjakov, B.G. Guliev // Urologija. - 2009. - № 1. - S. 66-67.
9. Kostjukevich O.I. Arterial'naja gipertenzija i pochki: vmeste naveki? Mozhno li razorvat' porochnyj krug / O.I. Kostjukevich // Rus. med. zhurn. - 2010.- T. 18, № 22.- S. 1332-1337.
10. Lopatkin N.A. Prostaja kista pochki / N.A. Lopatkin, E.B. Mazo. - M. : Medicina, 1982. – 192 s.
11. Muhin A.N. Arterial'naja gipertonija pri hronicheskikh zabolevanijah pochk (renoparenhimatoznye arterial'nye gipertonii) / A.N. Muhin, V.V. Fomin / V kn. : Rukovodstvo po arterial'noj gipertonii. Pod red. E.I.Chazova, I.E.Chazovoj. - M. : MediaMedika, 2005. - S. 117–135.
12. Peleshuk A.P. Prakticheskaja nefrologija / [A.P. Peleshuk, L.A. Pyrig, N.Ja. Mel'man i dr.]. - Kiev : Zdorov'e, 1983. – 344 s.
13. Salynov A.B. Prichina i profilaktika arterial'noj gipertenzii u bol'nyh nefrolitiazom posle distancionnoj litotripsii : dis. kand. med. nauk : spec. 14.00.40 «Urologija» / B. Salynov. - Rjazan', 2006. - 138 s.
14. Serov V.V. Pochki i arterial'naja gipertenzija / V.V. Serov, M.A. Pal'cev.- M. : Medicina, 1993. - 256 s.
15. Solov'eva A.B. Simptomaticheskie arterial'nye gipertenzii pri boleznyah pochk / A.B. Solov'eva // Sochetannaja patologija v klinicheskoj praktike : sb. nauch. tr., posvjashh. jubileju Zasl. dejatelja nauki RF prof. V.Ja. Garmasha.- Rjazan', 2011. – S. 10-11.
16. Chalyj M.E. Ocenka organnogo krovoobrashhenija pri obsemnyh obrazovanijah pochki s primeneniem cvetnoj jehodopplerografii : avtoref. diss. na soiskanie nauchnoj stepeni kand. med nauk : spec. 14.00.40 «Urologija» / M.E. Chalyj – Moskva, 1999. - 24 s.
17. Chihladze N.M. Arterial'naja gipertonija i pochki / N.M. Chihladze, I.E. Chazova // Consilium Medicum. – 2015. - № 17 (10). – S. 8–12.
18. Al-Said J. Reduced renal function in patients with simple renal cysts / J. Al-Said, M.A. Brumback, S. Moghazi [et al.] // Kidney Int. – 2004. – Vol. 65. – P. 2303–2308.
19. Bjerre P. Pressure measurement in renal cysts / P. Bjerre, B. Lindqvist, G. Michaelson // Scand. J. Clin. Lab. Invest. – 2001. - Vol. 27. – P. 135–138.
20. Brian D. Imaging of Renal Masses Interpreted on CT to Be Suspicious / D. Brian, M.R. Davison // AJR. - 2000. - Vol. 174. - P. 1017-1022.
21. Bruyn R. Imaging in cystic renal disease / R. Bruyn, I. Gordon // Arch. Dis. Child.- 2000. - Vol. 83. - P. 401-407.
22. Campese V.M. Hypertension in renal parenchymal disease: why is it so resistant to treatment? / V.M. Campese, N. Mitra, D. Sandee // Kidney Int. – 2006. - Vol. 69 (6). – P. 967–973.
23. Chin H.J. The clinical significances of simple renal cyst: is it related to hypertension or renal dysfunction? / H.J. Chin, H. Ro, H.J. Lee [et al.] // Kidney Int. – 2006. - Vol. 70. – P. 1468 – 1473.
24. Chung B.H. Comparison of single and multiple sessions of percutaneous sclerotherapy for simple renal cyst / B.H. Chung, J.H. Kim, C.H. Hong // BJU Int. - 2000. - Vol. 85, № 6. - P. 626-627.
25. Dubbins P.A. Renal artery stenosis: duplex Doppler evaluation / P.A. Dubbins // Br. J. Radiol. - 1986 - Vol. 59. - P. 225-229.
26. Goodfriend T.L. Angiotensins: actions and receptors / T.L. Goodfriend / In : Hypertension S. Oparil, M. Weber. – 2000. – P. 11–13.
27. Farrell J.I. Hypertension caused by unilateral renal compression / J.I. Farrell, R.H. Young // JAMA. – 1942. - Vol. 118. – P. 711-712.
28. Hashimoto Y. Usefulness of power Doppler ultrasound in a patient with renal cell carcinoma in the wall of a simple renal cyst / Y. Hashimoto, G. Kimura, N. Tsuboi // Hinyokika Kiyo. - 2001. - Vol. 47, № 5. - P. 325-327.
29. Herment A. Principles of colour imaging of blood flow / A. Herment, J.P. Gughelmi // II European Journal of Ultrasound. – 1994. - Vol. 1, № 2. – P. 196-204.
30. Hoard T.D. III. Simple renal cyst and high renin hypertension cured by cyst decompression / T.D. Hoard III, P. O'Brien // J. Urol. – 1976. - Vol. 1 (15). – P. 326 –327.
31. Holmberg G. Significance of simple renal cysts and percutaneous cyst puncture on renal function / G. Holmberg, S.O. Hietala, K. Karp [et al.] // Scan. J. Urol. Nephrol. – 1994. - Vol. 28. – P. 35–38.
32. Johnson J.D. High renin hypertension associated with renal cortical cyst / J.D. Johnson, H.M. Radwin // Urology. - 1976. - Vol. 7. – P. 508–511.
33. Keller G. Nephron number in patients with primary hypertension / G. Keller, G. Zimmer, G. Mall [et al.] // N. Engl. J. Med. – 2003. - Vol. 348. - P. 101-108.
34. Kuipers D. Renal masses: value of Doppler ultrasound in the differential diagnosis / D. Kuipers, R.H. Kruyt, M. Oudkerk // J. Urol. - 1994. - Vol. 151, № 2. - P. 326- 328.

35. Li P. Angiotensin-(1-7) enhances the effects of angiotensin II on the cardiac sympathetic afferent reflex and sympathetic activity in rostral ventrolateral medulla in renovascular hypertensive rats / P. Li, F. Zhang, H.J. Sun [et al.] // J. Am. Soc. Hypertens. – 2015. - Vol. 9 (11). – P. 865-877.
36. Luscher T.F. Simple renal cyst and hypertension: cause or coincidence? / T.F. Luscher, C. Wanner, W. Siegenthaler [et al.] // Clin. Nephrol. – 1986. - Vol. 26. – P. 91 – 95.
37. Park J.W. The prevalence of simple renal cysts studied by ultrasonography, and the relations to age and hypertension / J.W. Park, M.Y. Nam, D. Rheu [et al.] // Korean J. Nephrol. – 1998. - Vol. 17. – P. 896-904.
38. Pedersen J.F. Significant association between simple renal cysts and arterial blood pressure / J.F. Pedersen, S.A. Emamian, M.B. Nielsen // Br. J. Urol. – 1997. - Vol. 79. – P. 688–692.
39. Ravine D. An ultrasound renal cyst prevalence survey: specificity data for inherited renal cystic diseases / D. Ravine, R.N. Gibson, J. Donlan [et al.] // Am. J. Kidney Dis. – 1993. - Vol. 22. – P. 803–807.
40. Robertson R. Renal artery stenosis: the use of Doppler ultrasound as a screening technique / R. Robertson, A. Murphy, P.A. Anbbsins // Br. J. Radiol. – 1988. - Vol. 61. – P. 196-201.
41. Rockson S.G. Solitary renal cyst with segmental ischemia and hypertension / S.G. Rockson, R.A. Stone, J.C. Gunnells Jr. // J. Urol. – 1974. - Vol. 112. - P. 550 – 552.
42. Steg A. Les affections kystiques du rein de 1 adulte (65-e section AFU (Paris, Oct., 1975) / A. Steg // J. U. Nephrol. - 1975. - Vol. 81. - P. 21.
43. Tada S. The incidence of simple renal cyst by computed tomography / S. Tada, J. Yamagishi, H. Kobayashi [et al.] // Clin. Radiol. – 1983. - Vol. 34. – P. 437 – 439.
44. Terada N. The natural history of simple renal cysts / N. Terada, K. Ihioka, Y. Matusta [et al.] // J. Urol. – 2002. - Vol. 167. - P. 21–23.
45. Tigerstedt R. Niere und Kreislauf / R. Tigerstedt, P. Bergmann // Scand. Arch. Physiol. – 1898. - Vol. 8. – P. 223-271.
46. Weber M.A. Angiotensin II receptor blockers. In Hypertensia / M. Weber, S. Oparil. – 2000. – P. 377–378.
47. World Health Organization. A global brief on hypertension: silent killer, global public health crisis. – Geneva : World Health Organization, 2013. – Rezhim dostupu http://ish-world.com/downloads/pdf/global_brief_hypertension.pdf.
48. Yamagishi F. Age-related occurrence of simple renal cysts studied by ultrasonography / F. Yamagishi, N. Kitahara, W. Mogi [et al.] // Klin. Wochenschr. – 2008. - Vol. 66. – P. 385-387.
49. Zerem E. Simple renal cysts and arterial hypertension: does their evacuation decrease the blood pressure? / E. Zerem, G. Imamovic, S. Omerovic // J. Hypertens. – 2009. - Vol. 27. – P. 2074-2078.

MODERN CONCEPTION OF CORPUS CALLOSUM AS COMMISURE OF NEW PALLIUM

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Key words: corpus callosum, knee, trunk, bolster, myelinated fibres, blood supply.

This article deals with the structure of the corpus callosum and its blood supply according to the modern vision. The corpus callosum is a cross layer of nerve fibres that connect the cells of the neocortex of both hemispheres. In the genu of the corpus callosum interhemispheric fibres of the frontal lobes are joined, in the body of the corpus callosum fibres of frontal and parietal lobes are concentrated, and in the splenium fibres of occipital and posterior temporal lobes converge. According to existing concepts, integration of the anterior parts of temporal lobes is carried out separately by the anterior commissure. Medial and lateral strips encircling the corpus callosum on the top surface belong to it and, according to the literature review, carry out associative interactions between widely separated formations of limbic brain. Corpus callosum is characterized by the presence of a fat-like substance - myelin, which is a lipoprotein complex containing cholesterol, phospholipids and glycolipids. Myelin is found in structured form making shells for the processes of nerve cells. According to the latest data, corpus callosum of an adult contains 70% of myelinated and 30% of unmyelinated fibres. The main sources of blood supply to the corpus callosum are the anterior cerebral arteries that anastomose with branches of the posterior cerebral arteries. Venous blood flow from the corpus callosum is carried out through venous bed, which is located under the corpus callosum, belonging mainly to the vascular epithelium and choroid plexus of the third ventricle, from where the blood flows into a large vein of the brain. Currently, the question of the principle of constructive organization of hemomicrocirculatory bed of corpus callosum is open.

References

1. Ivanov G. F. Osnovy normal'noj anatomii cheloveka / G. F. Ivanov // Moskva: Medgiz. – 1949. – T. 2 - S. 80-137.

2. Pucillo M.V. Nejrohirurgicheskaja anatomija / M.V. Pucillo, A.G. Vinokurov, A.I. Belov // Moskva: Antidor. – 2002. – T. 1 – 206 s.
3. Hjem A. Gistologija / A. Hjem, D. Kormak. - Moskva: Mir. – 1983. – T. 3 - S. 163-212.
4. Roy E. The corpus callosum: imaging the middle of the road / E. Roy, C. Hague, B. Forster [et al.] / Can. Assoc. Radiol. J. – 2014. – Vol. 65, № 2. – P. 141–147.
5. Fabri M. Functional topography of human corpus callosum: an fMRI mapping study [Electronic resource] / M. Fabri, G. Polonara // Neural. Plast. – 2013. – Article ID 251308. – DOI: 10.1155/2013/251308.
6. Fabri M. Functional topography of the corpus callosum investigated by DTI and fMRI / M. Fabri, Ch. Pierpaoli, P. Barbaresi, G. Polonara // World J. Radiol. – 2014. – Vol. 6, № 12. – P. 895–906.
7. Salvolini U. Functional topography of the human corpus callosum / U. Salvolini, G. Polonara, G. Mascioli [et al.] // Bull. Acad. Natl. Med. – 2010. – Vol. 194, № 3. – P. 617–631.
8. Jarbo K. In vivo quantification of global connectivity in the human corpus callosum / K. Jarbo, T. Verstynen, W. Schneider // Neuroimage. – 2012. – Vol. 59, № 3. – P. 1988–1996.
9. Luders E. The development of the corpus callosum in the healthy human brain / E. Luders, P.M. Thompson, A.W. Toga // J. Neurosci. – 2010. – Vol. 30, № 33. – P. 10985–10990.
10. Ego H. Microsurgical anatomy of perforating branches of anterior communicating artery / H. Ego, H. N'Da, L. Viart [et al.] // Morphologie. – 2015. – Vol. 99, № 324. – P. 6–13.
11. Prakash K.N. Morphologic relationship among the corpus callosum, fornix, anterior commissure, and posterior commissure MRI-based variability study / K.N. Prakash, W.L. Nowinski // Acad. Radiol. – 2006. – Vol. 13, № 1. – P. 24–35.
12. Raybaud C. The corpus callosum, the other great forebrain commissures, and the septum pellucidum: anatomy, development, and malformation / C. Raybaud // Neuroradiology. – 2010. – Vol. 52, № 6. – P. 447–477.
13. Farag A. Shape modeling of the corpus callosum [Electronic resource] / A. Farag, S. Elhabian, M. Abdelrahman [et al.] // Conf. Proc. IEEE Eng. Med. Biol. Soc. – 2010. – P. 4288–4291.
14. Topographical organization of human corpus callosum: an fMRI mapping study / M. Fabri, G. Polonara, G. Mascioli [et al.] // Brain Res. – 2011. – Vol. 1370. – P. 99–111.
15. Velut S. Morphologic anatomy of the corpus callosum / S. Velu, C. Destrieux, M. Kakou // Neurochirurgie. – 1998. – Vol. 44, suppl 1. – P. 17–30.

MODERN ASPECTS OF PATHOGENESIS AND THERAPY OF PSORIASIS

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Key words: psoriasis, immunopathogenesis, cytokines, articular syndrome, disease-modifying drugs, symptom-modifying drugs, biological therapy.

The article is a review of scientific and medical literature on the current state of the problem of psoriasis. The aim of the research was to search for and study experimental and clinical scientific publications related to the pathogenesis and treatment of psoriasis. The analysis of the study of scientific and medical literature was carried out through the portal PubMed / MEDLINE from databases of the National Centre for Biotechnology Information, US National Library of Medicine, Institute for Clinical Systems Improvement (ICSI), National Institute for Health and Clinical Excellence, and portals as "Scientific Electronic Library eLIBRARY.RU", Cochrane Library electronic and "Russian scientific citation index (RINTS)." In-depth study of the pathogenesis of psoriasis has cleared up the understanding of the mechanisms of dermatosis, identified new treatment targets and determined the parameters and the severity of disease activity. Currently, the arsenal of modern means and methods of treatment of psoriasis allows healthcare professionals to choose the optimal and rational treatment for each patient based on pathogenetic aspects, clinical manifestations, stage, severity, disease activity and the presence of comorbidity.

References

1. Badokin V. V. Jefferktivnost' i perenosimost' leflunomida (Arava) v terapii psoriaticheskogo artrita // Sovremennaja revmatologija. — 2013. — № 4. — S. 92-96.
2. Bakulev A.L. Jefferktivnost' i bezopasnost' lechenija bol'nyh tjazhjolymi formami psoriaza / A.L. Bakulev, S.S. Kravchenja, N.A. Slesarenko, A.A. Shabogina // Vestnik dermatologii i venerologii. — 2010. — №2 — S. 72-81.
3. Beljaev G.M. Sovremennoe predstavlenie o patogeneze psoriaticheskoy artropatii i lechenie jetih bol'nyh / G.M. Beljaev // Dermatologija i venerologija. — 2010. — №1(47). — S. 7-30.

4. Dubikov A.I. Rol' oksida azota v patologii oporno-dvigatel'nogo apparata (chast' 1) / Dubikov A.I., Cherepovskij A.V., Belogolovych L.A. [i dr.] // Nauchno-prakticheskaja revmatologija. – 2004. – №3. – S. 78-82.
5. Dubikov A.I. Rol' oksida azota v patologii oporno-dvigatel'nogo apparata (chast' 2) / Dubikov A.I., Cherepovskij A.V., Belogolovych L.A. [i dr.] // Nauchno-prakticheskaja revmatologija. – 2004. – №4. – S. 53-56.
6. Znamenskaja L.F. Preparaty ingibitorov faktora nekroza opuholej al'fa v terapii bol'nyh psoriazom // Vestnik dermatologii i venerologii. – 2010. – № 6. – S. 7-15.
7. Znamenskaja L.F. Sovremennye metody terapii bol'nyh psoriazom / L.F. Znamenskaja, S.V. Jakovleva, V.A. Volnuhin, E.V. Pirogova // Vestnik dermatologii i venerologii. – 2011. – №1 – S. 11-14.
8. Il'ina N.I. Klinicheskaja immunologija i immunooposredovannye vospalitel'nye zabolevanija / N.I. Il'ina // Rossijskij allergologicheskij zhurnal. – 2010. – № 2. – S. 54-57.
9. Immunnye mehanizmy psoriaza. Novye strategii biologicheskoy terapii / A.A. Kubanova, A.A. Kubanov, Dzh. F. Nikolas [i dr.] // Vestnik dermatologii i venerologii. – 2010. – № 1. – S. 35-47.
10. Kacambas A.D., Lotti T.M. Evropejskoe rukovodstvo po lecheniju dermatologicheskikh zabolevanij. – M, 2008.
11. Kashutin S.L. Soderzhanie jepidermal'nogo faktora rosta u bol'nyh psoriazom i atopicheskim dermatitom / S.L. Kashutin, Ju.S. Degtjar // Citokiny i vospalenie. – 2008. – Tom 7, № 2. – S. 49-51.
12. Korotaeva T.V. Ispol'zovanie metotreksata v lechenii psoriaza i psoriaticheskogo artrita / T.V. Korotaeva, E.L. Nasonov, V.A. Molochkov // Sovremennaja revmatologija. – 2013. – №2. – S. 1-8.
13. Kungurov N.V. Biologicheskaja terapija bol'nyh tjazhjolymi formami psoriaza / N.V. Kungurov, M.M. Kohan, Ju.V. Keniksfer // Vestnik dermatologii i venerologii. – 2012. – №4. – S. 91-95.
14. Kutasevich Ja.F. Immunosupressivnaja terapija bol'nyh artropaticheskimi psoriazom / Ja.F. Kutasevich, I.A. Olejnik // Metodicheskie rekomendacii – K., 2011. – 19s.
15. Kutasevich Ja.F. Klinicheskie pojavlenija osloznenij dlitel'noj terapii sistemnymi glikokortikosteroidnymi gormonami v praktike dermatologa / Ja.F. Kutasevich, I.A. Olejnik, O.A. Levchenko // Klinichna imunologija, alergologija, infektologija. – 2012. – №8. – S. 49-51.
16. Kutasevich Ja.F. Terapevticheskaja jeffektivnost' i perenosimost' leflunomida v lechenii kozhnyh pojavlenij psoriaza i psoriaticheskogo artrita / Ja.F. Kutasevich, I.A. Olejnik // Ukraïns'kij revmatologichnij zhurnal. – 2010. – №4(42). – S. 37-41.
17. Markusheva L.I. Ocenka produkcii razlichnyh citokinov u bol'nyh psoriazom / L.I. Markusheva, V.A. Samsonov, A.G. Saruhanova, M.V. Savvateeva // Vestnik dermatologii i venerologii. – 2004. – № 4. – S. 4-6.
18. Olejnik I.A. Kompleksnoe lechenie bol'nyh artropaticheskimi psoriazom s uchjotom stepeni tjazhesti, osobennostej techenija zabolevanija: avtoref. dis. ...d-ra med. n., spec. 14.01.20 «Kozhnye i venericheskie bolezni». – Har'kov, 2009. – 33s.
19. Olisova O.Ju. Sovremennye metody lechenija psoriaza / O.Ju. Olisova, N.P. Tepljuk, V.B. Penegin // Russkij medicinskij zhurnal. – 2015. – №9. [Jelektronnyj resurs]. – Rezhim dostupa: <http://rmj.ru>.
20. Rol' jepidermal'nogo faktora rosta i ego receptora v razvitii onkopatologii // VIII Mezhdunarodnaja nauchno-prakticheskaja konferencija «Nauka v informacionnom prostranstve - 2012» (4-5 oktjabrja 2012g.) [Jelektronnyj resurs]. – Rezhim dostupa: http://www.confcontact.com/2012_10_04/bi2burakovsky.htm.
21. Sizon O.O. Artropatichnij psoriaz: obr'untuvannja racional'nih metodiv likuvannja ta profilaktiki. Chastina 1 / Sizon O.O., Stepanenko V.I. // Ukraïns'kij zhurnal dermatologii, venerologii, kosmetologii. – 2011. – №1(40). – S. 7-24.
22. Sizon O.O. Artropatichnij psoriaz: obr'untuvannja racional'nih metodiv likuvannja ta profilaktiki. Chastina 2 / Sizon O.O., Stepanenko V.I. // Ukraïns'kij zhurnal dermatologii, venerologii, kosmetologii. – 2011. – №2(41). – S. 37-44.
23. Sukolina O.G. Rol' oksida azota v patogeneze psoriaza / Sukolina O.G., Batkaev Je.A. // Rossijskij zhurnal kozhnyh i venericheskikh boleznej. – 2006. – №1. – S. 21-24.
24. Taradin G.G. Biologicheskie preparaty v lechenii pri psoriaticheskom artrite / G.G. Taradin, N.T. Vatutin, A.S. Smirnova // Ukraïnskij revmatologicheskij zhurnal. – 2014. – №3(57). – S. 4-12.
25. Behrens F. Leflunomide in psoriatic arthritis: Results from a large European prospective observational study / F. Behrens, F. Finkenwirth, K. Pavelika [et al.] // Arthr Care Res. – 2013. – Vol.65, №3. – P.464–70.
26. Bhagwat S.S. Kinase inhibitors for the treatment of inflammatory and autoimmune disorders / S.S. Bhagwat // Purinergic Signal. – 2009. – №5. – P. 107–115.
27. Boy M.G. Double-blind, placebo controlled, dose-escalation study to evaluate the pharmacologic effect of CP-690,550 in patients with psoriasis / M.G. Boy, C. Wang, B.E. Wilkinson [et al.] // J Invest. Dermatol. – 2009. – №129. –P. 2299–3029.
28. Cauli A. Clinical potential of apremilast in the treatment of psoriatic arthritis / A. Cauli, G. Porru, M. Piga [et al.] // Immunotargets Ther. – 2014. – №3. –P. 91–96.

29. Enerbäck C. Soluble biomarkers in psoriasis / C. Enerbäck // *Eur J Dermatol.* – 2011. – Vol.21(6). – P. 844–50.
30. Pathirana D. European S3-Guidelines on the systemic treatment of psoriasis vulgaris / D. Pathirana, A.D. Ormerod, P. Saiag [et al.] // *JEDV.* – 2009. – Vol.23(Suppl.2). – P. 5-70.
31. Flisiak I. Effect of psoriasis activity on epidermal growth factor (EGF) and the concentration of soluble EGF receptor in serum and plaque scales syndrome / I. Flisiak, M. Szerling-Jaworowska, A. Baran [et al.] // *Clin. Exp. Dermatol.* – 2014. – Vol.39, №4. – P. 461–467.
32. Gladman D.D. Psoriatic arthritis / D.D. Gladman, V. Chandran // Oxford University Press. – 2009. – 160p.
33. Kavanaugh A. Treatment of psoriatic arthritis in a phase 3 randomised, placebo-controlled trial with apremilast, an oral phosphodiesterase 4 inhibitor / A. Kavanaugh, P.J. Mease, J.J. Gomez-Reino [et al.] // *Ann. Rheum. Dis.* – 2014. – №0.–P.1–7 (doi: 10.1136/annrheumdis-2013-205056).
34. Matz M. Evaluation of the novel protein kinase C inhibitor sotrastaurin as immunosuppressive therapy after renal transplantation / M. Matz, M. Naik, M.F. Mashreghi [et al.] // *Expert Opin. Drug. Metab. Toxicol.* – 2011. – №7. – P.103–113.
35. Nestle F.O. Psoriasis / F.O. Nestle, D.H. Kaplan, J. Barker // *N. Engl. J. Med.* – 2009. – Vol.361, №5. – P. 496–509.
36. Ortiz-Ibáñez K. Tofacitinib and Other Kinase Inhibitors in the Treatment of Psoriasis / K. Ortiz-Ibáñez, M.M. Alsina, C. Muñoz-Santos // *Actas Dermosifiliogr.* – 2013. – Vol.104, №4. – P. 304–10.
37. Palfreeman A.C. New developments in the management of psoriasis and psoriatic arthritis: a focus on apremilast / A.C. Palfreeman, K.E. McNamee, F.E. McCann // *Drug Des. Devel. Ther.* – 2013. – Vol.176, №3. – P.201–210.
38. Pietrzak A. Serum epidermal growth factor in patients suffering from psoriasis / A. Pietrzak, B. Lecewicz-Torun, I. Jazienicka [et al.] // *Clin. Investig.* – 1998. – Vol.4, №2. – P.308–313.
39. Thomas Richard D. Review of conventional systemic therapies for severe psoriasis // *Skin Therapy Letter. com.* – 2011. – <http://www.skintherapyletter.com>.
40. Vainchenker W. Constantinescu JAKs in pathology: role of Janus kinases in hematopoietic malignancies and immunodeficiencies / W. Vainchenker, A. Dusa, S.N. Semin // *Cell Dev Biol.* – 2008. – №19. – P.385–393.

SURGICAL TREATMENT OF POSTCOITAL CYSTITIS IN YOUNG WOMEN

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Key words: recurrent cystitis, young women, anatomical predisposition, prevention, surgical treatment.

According to modern ideas the main role in the etiopathogenesis of the recurrent postcoital cystitis plays reinfection of the urinary tract during sexual intercourse, aided by anatomical and physiological characteristics of the female body and individual variations of topology of the external opening of the urethra - the so-called vaginal ectopy of the urethra and its hypermobility against the background of the urethra-hymenal adhesions - the remnants of the hymen. In recent years the surgical approach to the treatment of recurrent postcoital cystitis was developed. The techniques of circular mobilization of the urethra and its transposition towards clitoris become popular. The main disadvantage of such techniques is associated with circular mobilization of the urethra which leads to violation of the blood supply and innervation, stitches insolency, formation of strictures and recurrence of the disease. Uncertainty views on the problem and the lack of a unified approach to treatment significantly limits the possibility of qualified medical aid to women suffering from recurrent postcoital cystitis. It is obvious that the tactic of permanent relief of exacerbations is pathogenetically unsubstantiated and therefore not effective enough. The solution consists in prevention enables to reduce the risk of recurrence. However, there is no community of views on prophylactic aspects.

References

1. Andreev S.V. Povedencheskaja terapija v profilaktike rekurentnoj seks-inducirovannoj dizurii u molodyh zhenshhin / S.V. Andreev, A.I. Garagatyj // *Urologija, andrologija, nefrologija* – 2013: Materialy nauchno-prakticheskoy konferencii / [Pod red. V.N. Lesovogo, I.M. Antonjana i dr]. – Har'kov, 2013. – S. 217–219.
2. Vozianov O.F. *Urologija* / O.F. Vozianov, O.V. Ljul'ko // *Pidruchnik.* – 2-ge vid., dop. ta pererab. – Dnipropetrovs'k : Dnipro-VAL, 2002. – 830 s.
3. Gvozdev M.Ju. Transpozicija distal'nogo otdela uretry v operativnom lechenii recidivirujushhih infekcij nizhnih mochevyh putej u zhenshhin [Tekst] / M.Ju. Gvozdev, O.B. Loran, L.M. Gumin, V.V. D'jakov // *Urologija.* – 2000. – № 3. – S. 24–27.

4. Gumin L.M. Transpozicija distal'nogo otdela uretry v operativnom lechenii recidivirujushhih infekcij nizhnih mochevyh putej [Tekst] / L.M. Gumin, V.V. D'jakov, M.Ju. Gvozdev // Rossijskij vestnik akushera-ginekologa. – 2008. – T. 8. – S. 15.
5. Derevjanko T.I. Vlagalishhnaja jektopija naruzhnogo otverstija uretry kak odna iz prichin hronicheskogo recidivirujushhego cistita u zhenshhin: diagnostika i lechenie [Tekst] / T.I. Derevjanko // Urologija. – 2009. – № 5. – S. 18–20.
6. Derevjanko I.M. Vlagalishhnaja jektopija uretry i mochepolovoj sinus u zhenshhin [Tekst] / I.M. Derevjanko, T.I. Derevjanko, V.V. Ryzhkov, M.Ju. Eliseeva. – Stavropol', 2004. – 57 s.
7. Eliseeva M.Ju. Zhenskaja gipospadija kak prichina recidivirujushhih i hronicheskikh vul'vovaginitov, uretritov i cistitov : avtoref. diss. na soiskanie nauchnoj stepeni kand. med. nauk : spec. 14.00.01 «Akusherstvo i ginekologija» / M.Ju. Eliseeva. – Moskva, 2005. – 17 s.
8. Kisamedenov N.G. Rekonstruktivnaja hirurgija mocheispuskatel'nogo kanala u zhenshhin v lechenii recidivirujushhih infekcij nizhnih mochevyvodjashhih putej : avtoref. diss. na soiskanie nauchnoj stepeni kand. med. nauk : spec. 14.00.01 «Akusherstvo i ginekologija» / N.G. Kisamedenov. – Moskva, 2009. – 25 s.
9. Kogan M.I. Seksual'nye disfunkcii u zhenshhin s simptomami razdrazhenija nizhnih mochevyh putej: novaja oblast' uroginiekologicheskikh issledovanij / M.I. Kogan, S.Ju. Kalinchenko, N.Je. Avadieva // Problemy zhenskogo zdorov'ja. – 2008. – № 4, T. 3. – S. 14–18.
10. Komjakov B.K. Sposob hirurgicheskogo lechenija gipermobil'nosti i vlagalishhnoj jektopii uretry / B.K. Komjakov, L.M. Rodygin; T.H. Jel'–Attar. – Patent Rossijskoj Federacii №2408296. – 2011.
11. Komjakov B.K. Transpozicija distal'nogo otdela uretry pri gipermobil'nosti i vlagalishhnoj jektopii uretry u zhenshhin / B.K. Komjakov, T.H. Jel'–Attar // Materily I s#ezda urologov Respubliki Belarus'. – Minsk (9-10 oktjabrja 2008). – S 47.
12. Kocharjan G.S. Seksual'nye disfunkcii i patterny povedenija: sovremennij analiz problemy / G.S. Kocharjan // Seksologija i seksopatologija. – 2005. – № 4. – S. 20–33.
13. Loran O.B. Recidivirujushhie infekcii mochevyh putej / O.B. Loran, L.A. Sinjakova, I.V. Kosova. – Moskva : «MIA», 2008. – 32 s.
14. Loran O.B. Cposob transpozicii naruzhnogo otverstija mocheispuskatel'nogo kanala u zhenshhin / O.B. Loran, L.M. Gumin, V.V. D'jakov, M.Ju. Gvozdev. – Patent Rossijskoj Federacii. – A61B17/00. – №2132652. – 1999.
15. Nesterov S.N. Rekonstruktivnaja hirurgija mocheispuskatel'nogo kanala u zhenshhin v lechenii postkoital'nogo cistita / S.N. Nesterov, N.G. Kisamedenov // Vestnik nacional'nogo mediko-hirurgicheskogo Centra im. N.I.Pirogova. – 2009. – T. 4, № 2. – S.29–35.
16. Nesterov S.N. Rekonstrukcija uretry v lechenii postkoital'nogo cistita / S.N. Nesterov, V.V. Rogachikov, N.G. Kisamedenov // Jekologija i Medicina. – 2009. – № 2. – S. 41–47.
17. Pasechnikov S.P. Dinamika i koncepcija rozvitku urologichnoï sluzhbi v Ukraïni / S.P. Pasechnikov, N.O. Sajdakova, V.S. Gricaj // Materialy z'ïzdu Asociacii urologiv Ukraïni. – Odesa, 2010 (16–18 veresnja). – S. 7–9.
18. Pushkar' D.Ju. Nekotorye aspekty patogeneza, faktory riska i puti profilaktiki recidivirujushhej infekcii mochevyvodjashhih putej u zhenshhin / D.Ju. Pushkar', A.V. Zajcev, V.V. D'jakov // Farmateka. – 2006. – № 15. – S.17–23.
19. Rodygin L.M. Transpozicija distal'nogo otdela uretry pri ee jektopii / L.M. Rodygin // Vestnik Rossijskoj voenno-medicinskoj akademii. – 2009. – № 1 (25). – S. 814.
20. Sokol'shhik M.M. Sposob hirurgicheskogo lechenija hronicheskogo cistita pri gipermobil'nosti uretry u zhenshhin / [M.M. Sokol'shhik, S.V. Gagarina, Ja.A. Vaziev i dr.]. – Patent Rossijskoj Federacii. – A61B17/42. – №2362500. – 2009.
21. Sposib likuvannja vaginal'noï ektopii zovnishn'ogo otvoru sechovipusknogo kanalu u zhink: Patent 51783 Ukraïna MPK (2009) A61V 17/00 / Lisovij V.M., Garagatij I.A., Tuchkina I.O., Andreev S.V., Lisova M.A., Garagatij A.I. – Opubl. 26.07.2010, Bjul. № 14, – 4 s.
22. Archimbaud Jean-Pierre. La méatoskénéctomie avec urétrostomie périnéale: traitement des cystites récidivantes de la femme / Archimbaud Jean-Pierre, Gerard Thierry, Martin Xavier Jean-Baptiste // Progrès en Urologie. –2003. – № 13. – R. 445–452.
23. Bleidorn J. Symptomatic treatment (ibuprofen) or antibiotics (ciprofloxacin) for uncomplicated urinary tract infection? – Results of a randomized controlled pilot trial / J. Bleidorn, I. Gágyor, M.M. Kochen [et al.] // BMC Med. – 2010. – Vol. 8. – P.30. [Published online 2010 May 26. doi: 10.1186/1741–7015–8–30].
24. Constantinides C. Prevention of recurrent bacterial cystitis by intravesical administration of hyaluronic acid: a pilot study / C. Constantinides, T. Manousakas, P. Nikolopoulos [et al.] // BJU Int. – 2004. – Vol. 93. – P. 1262–1266.
25. Derevianko T.I. Vaginal ectopia of urethra as a cause of chronic recurrent cystitis in women: diagnosis and treatment / T.I. Derevianko // Urologija. – 2009. – Vol. 5. – P.18–21.
26. Dwyer P.L. Recurrent urinary tract infection in the female / P.L. Dwyer, M. O'Reilly // Curr Opin Obstet Gynecol. – 2002. – Vol. 14. – P.537–543.

27. Gupta K. Pathogenesis and management of recurrent urinary tract infections in women / K. Gupta, W.E. Stamm // *World J. Urol.* – 1999. – Vol. 17. – P. 415–420.
28. Hirschhorn R.C. Urethral – hymeneal fusion: a surgically correctable cause of recurrent cystitis / R.C. Hirschhorn // *Obstetrics and Gynecology.* – 1965. – Vol. 6. – P. 903–908.
29. Hopkins W.J. Vaccine development for the prevention of urinary tract infections / W.J. Hopkins, D.T. Uehling // *Curr. Infect. Dis. Rep.* – 2002. – Vol. 4. – P. 509–513.
30. Ildikó Gágyor. Immediate versus conditional treatment of uncomplicated urinary tract infection – a randomized–controlled comparative effectiveness study in general practices / Gágyor Ildikó, Hummers–Pradier Eva, Kochen Michael M. [et al.] // *BMC Infect. Dis.* – 2012. – Vol. 12. – P. 146 [Published online 2012 June 28. doi: 10.1186/1471–2334–12–146].
31. Kodner C.M. Recurrent urinary tract infections in women: diagnosis and management / C.M. Kodner, E.K. Thomas Gupton // *Am. Fam. Physician.* – 2010. – Sep. 15. – Vol. 82 (6). – P. 638–643.
32. Nicolle L.E. Urinary tract infection: traditional pharmacologic therapies / L.E. Nicolle // *Am. J. Med.* – 2002. – № 113 (Suppl 1A). – P. 35–44.
33. Recurrent Urinary Tract Infection / Annette Epp., Annick Larochelle [et al.] [Society of Obstetricians and Gynaecologists of Canada] // *SOGC Clinical practice guideline.* – 2010. – №250 (November). – P. 1082–1090.
34. Reziciner S. Prevention of recurrent post-coital cystitis using hymenoplasty / S. Reziciner // *Ann. Urol. (Paris).* – 1988. – Vol. 22 (6). – P. 446–451.
35. Ronzoni G. Transposing the urethral meatus in the treatment of recurrent and postcoital cystitis in women with hypospadias / G. Ronzoni, L. De Giovanni, J.M. Weir [et al.] // *BJU Int.* – 2001. – Vol. 87 (9). – P. 894–896.
36. Stamatiou C. Sex-induced cystitis—patient burden and other epidemiological features / C. Stamatiou, C. Bovis, P. Panagopoulos [et al.] // *Clin. Exp. Obstet. Gynecol.* – 2005. – Vol. 32 (3). – P. 180–182.
37. Uehling D.T. Vaginal mucosal immunization for recurrent urinary tract infection: extended phase II clinical trial / D.T. Uehling, W.J. Hopkins, L.M. Beierle [et al.] // *J. Infect. Dis.* – 2001. – Vol. 183 (Suppl 1). – P. 81–83.

MODERN VIEWS ON THE ROLE OF TOLL-LIKE RECEPTORS IN IMMUNE AND PHYSIOLOGICAL HOMEOSTASIS AND PATHOLOGY

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Key words: toll-like receptors, immune reactivity, homeostasis, pain.

This review article describes current views on the unique system of toll-like receptors (TLR) and their role in providing non-specific immune response, their involvement into inborn and acquired immunity, pathogenesis of condition associated with painful reactions. We cleared up the peculiarities of the role of TLR in determining the origin of infectious pathogen, forming anti-infectious immunity, directed differential regulation of pro-inflammatory and protective functions of immune cells in humans.

References

1. Abaturov A. E. Rol' Toll-podobnyh receptorov v rekognicii patogen-associirovannyh molekuljarnyh struktur infekcionnyh patogennyh agentov i razvitii vospolenija. Chast' 4. Vnutrikletochnye signal'nye puti TLR / A. E. Abaturov, A. P. Volosovec, E. I. Julish // *Zdorov'e rebjonka.* – 2012. – № 8 (43). – S. 163 – 167.
2. Abaturov A. E. Rol' Toll-podobnyh receptorov v rekognicii patogen-associirovannyh molekuljarnyh struktur infekcionnyh patogennyh agentov i razvitii vospolenija. Chast' 1. Semejstvo TLR / A. E. Abaturov, A. P. Volosovec, E. I. Julish // *Zdorov'e rebjonka.* – 2012. – № 5 (40). – S. 116 – 121.
3. Abaturov A. E. Rol' Toll-podobnyh receptorov v rekognicii patogen-associirovannyh molekuljarnyh struktur infekcionnyh patogennyh agentov i razvitii vospolenija. Chast' 2. Ligandy TLR / A. E. Abaturov, A. P. Volosovec, E. I. Julish // *Zdorov'e rebjonka.* – 2012. – № 6 (41). – S. 213 – 219.
4. Abaturov A. E. Rol' Toll-podobnyh receptorov v rekognicii patogen-associirovannyh molekuljarnyh struktur infekcionnyh patogennyh agentov i razvitii vospolenija. Chast' 3. Rekognicija ligandov TLR / A. E. Abaturov, A. P. Volosovec, E. I. Julish // *Zdorov'e rebjonka.* – 2012. – № 7 (42). – S. 157 – 164.
5. Berezhnaja N. M. Toll-like receptory i onkogenez / N. M. Berezhnaja // *Onkologija.* – 2013. – T. 15, № 2. – S. 76 – 87.
6. Berezhnaja N. M. Fiziologija TOLL-podobnyh receptorov – reguljatorov vrozhdennogo i priobretnennogo immuniteta / N. M. Berezhnaja, R. I. Sepiashvili // *Fiziologichnij zhurnal.* – 2011. – T. 57, № 5. – S. 26 – 29.

7. Bondarenko V. M. Vzaimodejstvie kishechnoj mikroflory s TOLL-podobnymi receptoram v norme i pri patologii / V. M. Bondarenko, V. G. Lihoded // Immunologija. – 2009. – T. 30, № 5. – S. 317 – 320.
8. Dmitrienko E. V. Immunnaja sistema mozga i cherepno-mozgovaja travma: popytka korrekcii / E. V. Dmitrienko, N. Akimoto, S. Naoe, M. Noda, E. G. Rybakina, akademik RAMN E. A. Korneva // Medicinskij akademicheskij zhurnal. – 2013. – T. 13 № 4. – S. 7 – 18.
9. Kassil' G. N. Bol' i obezbolivanie / G. N. Kassil'. – Moskva: Nauka, 1965. – 320 s.
10. Koval'chuk L. V. Vrozhdennye komponenty immuniteta: Toll-podobnye receptory v norme i pri immunopatologii / L. V. Koval'chuk, M. V. Horeva, A. S. Varivoda // Zhurnal mikrobiologii, jepidemiologii i immunobiologii. – 2005. - № 4. – S. 96 – 104.
11. Krjuchko T. O. Prirodzheni komponenti imunitetu: TOLL – podobni receptori v normi i pri patologii / T. O. Krjuchko, O. Ja. Tkachenko, Ju. O. Vovk // Zdorov'e rebenka. – 2010. – № 6 (27). – S. 42 – 45.
12. Melzak R. Zagadka boli / R. Melzak. – Moskva: Medicina, 1981, - 233 s.
13. Shhebljakov D. V. Toll-podobnye receptory (TLR) i ih znachenie v opuholevoj progressii / D. V. Shhebljakov, D. Ju. Logunov, A. I. Tuhvatulin, M. M. Shmarov // Acta Nature. – 2010. – T. 2, № 3. – S. 28 – 37.
14. Loeser John D. The Education of Pain Physicians / John D. Loeser MD Professor, Emeritus. // Pain Medicine. – 2014. – V 16 I 2. – P. 225 – 229. (75)
15. Kidd Pain and inflammation / Kidd [et al.] // Osteoarthritic joint pain. – 2004. – P. 292.
16. Mendelson G. Psychiatric Aspects of Litigation and Pain / G. Mendelson // Encyclopedia of pain. – 2007. – P. 1998 – 2003.
17. Reine-Solange Sauer. Toll like receptor (TLR)-4 as a regulator of peripheral endogenous opioid-mediated analgesia in inflammation / Reine-Solange Sauer, Dagmar Hackel, Laura Morschel [et al.] // Molecular Pain. – 2014. – №10. – P. 1 – 15.
18. Richard A. Sternbach. Pain: A Psychophysiological Analysis. - Academic Press, 1968. – 185 p.
19. Tong Liu Emerging role of Toll-like receptors in the control of pain and itch / Liu Tong, Gao Yong-Jing, Ji Ru-Rong // Neurosci Bull. – 2012. – №28 (2). – P. 131 – 144.
20. Xisheng Yan. Activation of toll like receptor 4 attenuates GABA synthesis and postsynaptic GABA receptor activities in the spinal dorsal horn via releasing interleukin-1 beta / Yan Xisheng, Jiang Enshe, Weng Han-Rong. // Journal of Neuroinflammation. – 2015. – №12:222. – P. 1 – 14.

MODERN APPROACHES TO TREATMENT OF METASTATIC HORMONE-SENSITIVE PROSTATE CANCER

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Key words: metastatic prostate cancer, androgen deprivation therapy, chemotherapy, chemo-hormonal therapy.

The review article presents the epidemiology of prostate cancer (PC) and modern trends in metastatic prostate cancer. The historical aspects of medical castrations were describes. The common efficiency of an-drogen deprivation therapy (ADT) substantiated in several studies, as well as the efficiency of intermittent ADT compared with constant ADT were discussed. Examples of the improved ADT results due to combined or maximum androgen blockade are provided. The importance in searching new therapeutic approaches to this form of the disease because of the emergence of hormone resistant prostate cancer is reported. One of the possible solutions of this problem is the early beginning of cytostatic therapy in addition to ADT. The efficiency of combination of ADT and docetaxel chemotherapy has been demonstrated in three studies showed a significant improvement in the parameters of progression-free and overall survival.

References

1. Ahmed M. Adaptation and clonal selection models of castration-resistant prostate cancer: current perspective / M. Ahmed, L.-C. Li // Int. J. Urol. - 2013. – Vol. 20 (4). – P. 362–371.
2. Akaza H. Combined androgen blockade with bicalutamide for ad-vanced prostate cancer: long-term follow-up of a phase double-blind, randomized study for survival / H. Akaza, S. Hinotsu, M. Usami [et al.] // Cancer. - 2009. – Vol. 115. – P. 3437–3445.
3. Byar D.P. Proceedings: The Veterans Administration Cooperative Urological Research Group's studies of cancer of the prostate / D.P. Byar // Cancer. - 1973. – Vol. 32. – P.1126.
4. Byar D.P. Hormone therapy for prostate cancer: results of the Veterans Administration Cooperative Urological Research Group studies / D.P. Byar, D.K. Corle. - NCI Monogr, 1988. – 165 p.

5. Calais da Silva F.M. Locally advanced and metastatic prostate cancer treated with intermittent androgen monotherapy or maximal androgen blockade: results from a randomised phase 3 study by the South European Urooncological Group / F.M. Calais da Silva, F. Gonçalves [et al.] // *Eur. Urol.* - 2014. - Vol. 66. - P. 232.
6. Caubet J.F. Maximum androgen blockade in advanced prostate cancer: a meta-analysis of published randomized controlled trials using nonsteroidal antiandrogens / J.F. Caubet, T.D. Tosteson, E.W. Dong [et al.] // *Urology.* - 1997. - Vol. 49. - P. 71–78.
7. Center M.M. International variation in prostate cancer incidence and mortality rates / M.M. Center, A. Jemal, J. Lortet-Tieulent [et al.] // *Eur. Urol.* - 2012. - Vol. 61(6). - P. 1079–1092.
8. Cullen J. The burden of prostate cancer in Asian nations / J. Cul-len, S. Elsamnoudi, S.A. Brassell [et al.] // *J. Carcinog.* - 2012. - Vol. 11. - P. 7.
9. Gillessen S. Management of patients with advanced prostate cancer: recommendations of the St Gallen Advanced Prostate Cancer Consensus Conference (APCCC) 2015 / S. Gillessen, A. Omlin, G. Attard [et al.] // *Annals of Oncology.* - 2015. - Vol. 26. - P. 1589–1604.
10. Gravis G. Androgen deprivation therapy (ADT) plus docetaxel (D) versus ADT alone for hormone-naïve metastatic prostate cancer (Pca): long-term analysis of the GETUG-AFU-15 phase III trial / G. Gravis, J.-M. Boher, F. Joly [et al.] // *J. Clin. Oncol.* - 2015. - GU suppl: abstr 140.
11. Gravis G. Androgen-deprivation therapy alone or with docetaxel in non-castrate metastatic prostate cancer (GETUG-AFU 15): a randomised, open-label, phase 3 trial / G. Gravis, K. Fizazi, F. Joly [et al.] // *Lancet Oncol.* - 2013. - Vol. 14 (2). - P. 149–158.
12. James N.D. Survival with Newly Diagnosed Metastatic Prostate Cancer in the "Docetaxel Era": Data from 917 Patients in the Control Arm of the STAMPEDE Trial (MRC PR08, CRUK/06/019) / N.D. James, M.R. Spears, N.W. Clarke [et al.] // *Eur. Urol.* - 2015. - Vol. 67. - P. 1028–1038.
13. James N.D. Docetaxel and/or zoledronic acid for hormone-naïve prostate cancer: First overall survival results from STAMPEDE (NCT00268476) / N.D. James, M.R. Sydes, M.D. Mason [et al.] // *J. Clin. Oncol.* - 2015. - Vol. 33 – suppl: abstr 5001.
14. Heidenreich A. EAU guidelines on prostate cancer. Part II: Treatment of advanced, relapsing, and castration-resistant prostate cancer / A. Heidenreich, P.J. Bastian, J. Bellmunt [et al.] // *Eur. Urol.* - 2014. - Vol. 65. - P. 467.
15. Hellerstedt B.A. The current state of hormonal therapy for prostate cancer / B.A. Hellerstedt, K.J. Pienta // *CA Cancer J. Clin.* - 2002. - Vol. 52. - P. 154–179.
16. NCCN Clinical Practice Guidelines in Oncology http://www.nccn.org/professionals/physician_gls/f_guidelines.asp (Accessed on July 06, 2012).
17. Huggins C. Studies on prostatic cancer: I. The effects of castration, of estrogen, and of androgen injection on serum phosphatases in metastatic carcinoma of the prostate / C. Huggins, C.V. Hodges // *Cancer Res.* - 1941. - Vol. 1. - P. 293.
18. Huggins C. Studies on prostatic cancer: II. The effects of castration on advanced carcinoma of the prostate gland / C. Huggins, J. Stevens, C.V. Hodges // *Arch. Surg.* - 1941. - Vol. 43. - P. 209.
19. Hussain M. Intermittent versus continuous androgen deprivation in prostate cancer / M. Hussain, C.M. Tangen, D.L. Berry [et al.] // *N. Engl. J. Med.* - 2013. - Vol. 368. - P. 13–14.
20. Loblaw D.A. Initial hormonal management of androgen-sensitive metastatic, recurrent, or progressive prostate cancer: 2006 update of an American Society of Clinical Oncology practice guideline / D.A. Loblaw, K.S. Virgo, R. Nam [et al.] // *J. Clin. Oncol.* - 2007. - Vol. 25. - P. 1596.
21. Maximum androgen blockade in advanced prostate cancer: an overview of 22 randomised trials with 3283 deaths in 5710 patients. Prostate Cancer Trialists' Collaborative Group // *Lancet.* - 1995. - Vol. 346. - P. 265–269.
22. Maximum androgen blockade in advanced prostate cancer: an overview of the randomised trials. Prostate Cancer Trialists' Collaborative Group // *Lancet.* - 2000. - Vol. 355. - P. 1491–1498.
23. Niraula S. Treatment of prostate cancer with intermittent versus continuous androgen deprivation: a systematic review of randomised trials / S. Niraula, L.W. Le, I.F. Tannock // *J. Clin. Oncol.* - 2013. - Vol. 31. - P. 2029–2036.
24. Patrikidou A. Who dies from prostate cancer? / A. Patrikidou, Y. Lortet, J.-C. Eymard [et al.] // *Prostate Cancer Prostatic Dis.* - 2014. - Vol. 17 (4). - P. 348–352.
25. Samson D.J. Systematic review and meta-analysis of monotherapy compared with combined androgen blockade for patients with advanced prostate carcinoma / D.J. Samson, J. Seidenfeld, B. Schmitt [et al.] // *Cancer.* - 2002. - Vol. 95. - P. 361–376.
26. Siegel R.L. Cancer statistics, 2015 / R.L. Siegel, K.D. Miller, A. Jemal // *CA Cancer J. Clin.* - 2015. - Vol. 65. - P. 5–29.
27. Sweeney C. Chemohormonal therapy versus hormonal therapy for hormone naive newly metastatic prostate cancer: ECOG-led randomised trial / C. Sweeney, M.A. Carducci, M.A. Eisenberger [et al.] // *Ann. Oncol.* - 2014. - Suppl 4: Abstr 7560.
28. Sweeney Ch.J. Chemohormonal therapy in metastatic hormone-sensitive prostate cancer / Ch.J. Sweeney, Y.-H. Chen, M. Carducci [et al.] // *N. Engl. J. Med.* - 2015. - Vol. 373. - P. 737–746.

29. Tangen C.M. Improved overall survival trends of men with newly diagnosed M1 prostate cancer: a SWOG phase III trial experience (S8494, S8894 and S9346) / C.M. Tangen, M.H. Hussain, C.S. Higano [et al.] // J. Urol. - 2012. - Vol.188. - P. 1164–1169.

30. Wu J.N. No improvement noted in overall or causespecific survival for men presenting with metastatic prostate cancer over a 20-year period / J.N. Wu, K.M. Fish, C.P. Evans [et al.] // Cancer. - 2013. - Vol. 120 (6). - P. 818–823.

ANALYSIS OF CHALLENGES ASSOCIATED WITH FORENSIC AND MEDICAL DIAGNOSIS OF POISONING BY SYNTHETIC NARCOTIC SUBSTANCES PROBLEM

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Key words: «designer» drugs, forensic and medical diagnosing, algorithm of complex examination

The amount of drug addicts in our country has reached threatening figures for our society in recent years. There are 150 thousands of persons, who are officially registered by the Ministry of Internal Affairs, however, the number of unregistered persons is much more high. “Designer” drugs have become the most spread group of narcotic substances. They are the synthetic compounds of different groups, which chemical structure is being constantly changed, what makes the process of their detection in biological tissues and fluids in forensic laboratories very complicated and impedes the legislative regulation of their traffic. Because of obstacles, which forensic laboratories face with, there is a necessity to create the algorithm to diagnose lethal outcomes caused by taking or overdose these drugs. Such algorithm would give a possibility to determine the relation between death occurrence and drug used with high probability.

References

1. Brusin K.M. Ostrye otravleniya novymi sinteticheskimi narkotikami psihostimulirujushhego dejstva. Informacionnoe pis'mo dlja vrachej / [K.M. Brusin, O.V. Zabrodin, T.H. Urazaev i dr.]. - Ekaterinburg, 2011. - 18 s.

2. Elektronnij resurs: http://zn.ua/UKRAINE/ot-narkomanii-i-svyazannyh-s-ney-bolezney-v-ukraine-umirayut-do-120-tysyach-chelovek-v-god-130393_.html.

3. Lenchik M.V. Puti sovershenstvovaniya nacional'nogo zakonodatel'stva, napravlennoho na protivodejstvie rasprostraneniju «dizajnerskoj» narkomanii / M.V. Lenchik // Vestnik Sibirskogo juridicheskogo instituta FSKN Rossii. - 2014. - № 4. - S. 53-62.

4. Sinteticheskie narkotiki: opasnost' rasprostraneniya, ih novye vidy i analogi. Metodicheskie rekomendacii. - Rezhim dostupu http://lond.lg.ua/article_13.php.

5. Shabanov P.D. Narkomanii: patopsihologiya, klinika, reabilitacija / P.D. Shabanov, O.Ju. Shtakel'berg. - SPb. : Lan', 2000. - 386 s.

6. Jekspertnoe issledovanie nekotoryh naibolee rasprostranennyh «strukturnyh analogov» narkoticheskikh sredstv i psihotropnyh veshhestv (FSKN, MVD. - Ekaterinburg, 2010) / Inf pis'mo. - Rezhim dostupu <http://hand-help.ru/doc22.html>.

7. Dean B.V. 2C or not 2C: phenethylamine designer drug review / B.V. Dean, S.J. Stellpflug, A.M. Burnett, K.M. Engebretsen // J. Med. Toxicol. - 2013. - Vol. 9, № 2. - P. 172-178.

8. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). - Rezhim dostupu URL: <http://www.emcdda.europa.eu/>

9. Howlett A.C. Signal transduction of eicosanoid / A.C. Howlett, S. Mukhopadhyay, J-Y. Shim, W.J. Welsh. - Rezhim dostupu <http://www.ncbi.nlm.nih.gov/pubmed/10462062>.

10. Martin B.R. Discovery and characterization of endogenous cannabinoids / B.R. Martin, R. Mechoulam, R.K. Razdan // Life Sci. - 1999. - Vol. 65, № 6–7. - P. 573–595.

11. Prosser J.M. The toxicology of bath salts: a review of synthetic cathinones / J.M. Prosser, L.S. Nelson // J. Med. Toxicol. - 2012. - Vol. 8, № 1. - P. 33-42.

12. United Nations Office On Drugs and Crime (UNODC) // rezhim dostupu URL: <http://www.unodc.org/>

PECULIARITIES OF ETIOLOGY OF COMMUNITY-ACQUIRED PNEUMONIA AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS

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Key words: community-acquired pneumonia, diabetes mellitus, etiology.

In the case of patients with diabetes mellitus, which is one of the most frequent comorbidities, there is scanty information in the world medical literature about the clinical characteristics and microbiological

factors of community-acquired pneumonia. A major problem of modern diagnosis and treatment of pneumonia is an available quantity of combined or mixed infections, which are resulted from the impact produced by two or more pathogens of viral, bacterial or other etiology. This problem in turn leads to errors of antibiotic therapy and increases the course of pneumonia and its severity in this group of patients.

References

1. Chuchalin A.G.. Vnebol'nichnaja pnevmonija u vzroslyh: prakticheskie rekomendacii po diagnostike, lecheniju i profilaktike : posobie dlja vrachej / A.G. Chuchalin. – Moskva, 2010. – 106 s.
2. Kolosov V.P. Vnebol'nichnaja pnevmonija (klinicheskoe techenie, prognozirovanie ishodov) / V.P. Kolosov, E.Ju. Kochegarova, S.V. Naryshkina. – Blagoveshhensk, 2012 – S. 1–124.
3. Mostovoj Ju.M. Primenenie antibiotikov v Ukraine: zakonomernosti i tendencii / Ju.M. Mostovoj, A.V. Demchuk // Zdorov'e Ukrainy. – 2011. – № 20 (273). – S. 19–20.
4. Novikov Ju.K. Vybor antibakterial'noj terapii pri vnebol'nichnyh pnevmonijah / Ju.K. Novikov // Rus. med. zhurn. – 2011. – T. 19, № 8. – S. 481–483.
5. Perceva T.A. Racional'naja antibakterial'naja terapija pri vnebol'nichnoj pnevmonii. Primenenie respiratornyh ftorhinolonov / T.A. Perceva, T.V. Kireeva, V.V. Dmitrichenko // Ukr. terapij. zhurn. – 2009. – № 2. – S. 17–21.
6. Rachina S.A. Farmakojepidemiologicheskie aspekty lechenija vnebol'nichnoj pnevmonii v ambulatornoj praktike : avtoref. dis. na soiskanie uchenoj stepeni doktora med. nauk : spec. 14.00.25 «Farmakologija, klinicheskaja farmakologija» / S.A. Rachina. – Smolensk, 2002. – 21 s.
7. Feshhenko Ju.I. Klinichni nastanovi z diagnostiki i likuvannja pacientiv iz negospital'noju pnevmoniju (proekt) / Ju.I. Feshhenko, O.Ja. Dzjublik, Ja.O. Dzjublik [ta in.] / Zdorov'ja Ukraïni. – 2011. – № 20 (273). – S. 29–30.
8. Judina L.V. Antibakterial'naja pnevmonija pri vnebol'nichnoj pnevmonii u pacientov pozhilogo i starcheskogo vozrasta: akcenty na glavnom / L.V. Judina // Terapia. – 2012. – № 2 (66). – S. 69–72.
9. Almirall J. New evidence of risk factors for community-acquired pneumonia: a population-based study / J. Almirall, I. Bolibar ; the Community-Acquired Pneumonia in Catalan Countries (PACAP) Study Group // Eur. Respir. J. – 2008. – № 31. – P. 1274–1284.
10. Anton Y. Peleg. Common infections in diabetes: pathogenesis, management and relationship to glycaemic control / Anton Y. Peleg, Thilak Weeraratna, James S. McCarthy, Timothy M. E. Davis // Diabetes Metab. Res. Rev. – 2007. – № 23. – P. 3–13.
11. American Diabetes Association. Standards of Medical Care in Diabetes - 2011 / Diabetes Care. – 2011. – Vol. 34, suppl.1. – P.11–50.
12. Yeh H.C. Cross-sectional and prospective study of lung function in adults with type 2 diabetes: the Atherosclerosis Risk in Communities (ARIC) study / H. C. Yeh, N. M. Punjabi, N. Y. Wang [etal.] // Diabetes Care. – 2008. – № 31(4). – P. 741–746.
13. Bordon J. Decrease in Long-term Survival for Hospitalized Patients With Community-Acquired Pneumonia / J. Bordon, T. Wiemken, P. Peyrani, M. LuzPazandthe CAPO StudyGroup // Chest. – 2010. – № 138. – P. 279–283.
14. Eurich D.T. Dysglycaemia and 90 day and 1 year risks of death or readmission in patients hospitalized for community-acquired pneumonia / D.T. Eurich, J.M. Gamble, T.J. Marrie, S.R. Majumdar // Diabetologia. – 2010. – № 53. – P. 497–503.
15. Hsia C.C. Lung involvement in diabetes. Does it matter? / C.C. Hsia, P. Raskin // Diabetes Care. – 2008. – № 31. – P. 828–829.
16. Aliberti S. Incidence, etiology, timing, and risk factors for clinical failure in hospitalized patients with community-acquired pneumonia / S. Aliberti, A. Amir, P. Peyrani [et al.] // Chest. – 2008. – № 134 (5). – P. 955–962.
17. Kothe H. Outcome of community-acquired pneumonia: influence of age, residence status and antimicrobial treatment / H. Kothe, T. Bauer, R. Marre [et al.] // Eur. Respir. J. – 2008. – № 32. – P. 139–146.
18. Johnstone J. Long-term morbidity and mortality after hospitalization with community-acquired pneumonia: a population-based cohort study / J. Johnstone, D. T. Eurich, S. R. Majumdar [etal.] // Medicine. – Baltimore, 2008. – № 87 (6). – P. 329–334.
19. Van den Borst B. Pulmonary function in diabetes. A Meta analysis / B. Van den Borst, H.R. Gosker, M. Zeegers, A.M. Schols // Chest. – 2010. – № 138. – P. 393–406.
20. Klein O.L. Reduced diffusion capacity in patients with type 2 diabetes mellitus predicts hospitalization for pneumonia / O. L. Klein, L. J. Smith, M. Tipping [et al.] // Diabetes Res. Clin. Pract. – 2011. – № 92(1). – P. 12–15.
21. Klein O.L. Reduced lung diffusion capacity in type 2 diabetes is independent of heart failure / O.L. Klein, M. Jones, J. Lee [et al.] // Diab. Res. Clin. Pract. – 2012. – P. 1–3.

22. Chalmers J.D. Severity assessment tools for predicting mortality in hospitalised patients with community acquired pneumonia. Systematic review and meta-analysis / J.D. Chalmers, A. Singanayagam, A.R. Akram [et al.] // *Thorax*. – 2010. – № 65. – P. 878–883.
23. Schmidt-loanas M. Treatment of pneumonia in elderly patients / M. Schmidt-loanas, H. Lode // *Expert Opin. Pharmacother.* – 2006. – № 7(5). – P. 499–507.
24. Davis W.A. The Fremantle Diabetes Study. Glycemic exposure is associated with reduced pulmonary function in type 2 diabetes: the Fremantle Diabetes Study / W.A. Davis, M. Knuiman, P. Kendall [et al.] // *Diabetes Care*. – 2004. – № 27. – P. 752–757.
25. Iversen K.K. The prognostic importance of lung function in patients admitted with heart failure / K.K. Iversen, J. Kjaergaard, D. Akkan [et al.] // *Eur. J. Heart Fail.* – 2010. – № 12. – P. 685–691.
26. Trémolières F. Épidémiologie microbienne des infections respiratoires basses actualités / F. Trémolières // *Médecine et maladies infectieuses*. – 2006. – № 36. – P. 546–554.
27. Vila-Corcoles A. Epidemiology of community-acquired pneumonia in older adults: a population-based study / A. Vila-Corcoles, O. Ochoa-Gondar, T. Rodriguez-Blanco [et al.] // *Respir. Med.* – 2009. – № 103. – P. 309–316.
28. Welte T. Clinical and economic burden of community-acquired pneumonia among adults in Europe / T. Welte, A. Torres, D. Nathwani // *Thorax*. – 2010. – № 10. – P. 1–9.
29. Bruns A.H.W. Usefulness of consecutive C-reactive protein measurements in follow-up of severe community-acquired pneumonia / A.H.W. Bruns, J.J. Oosterheert, E. Hak, A. I. M. Hoepelman // *Eur. Respir. J.* – 2008. – № 32. – P. 726–732.

AGE-RELATED HYPOGONADISM: CAUSES, BACKGROUND, CONSEQUENCES

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Key words: age-related hypogonadism, testosterone, metabolic syndrome, cardiovascular disease.

The aim of this work was to analyze the data, devoted to the problems of the age-related hypogonadism in aging males. This review article represents questions of diagnostic value and predictive values of sex hormone levels in the formation of cardiovascular and metabolic disorders in males with age-related hypogonadism. Aging in men may be accompanied by significant changes in the endocrine system, including the hypothalamic-pituitary-testicular system, adrenals, growth hormone system and pancreas. However, the slightest changes occur first in the hypothalamic-pituitary-thyroid system. Androgens failure is a major cause of bone tissue loss in men. Recent studies show low testosterone levels are the predictors of metabolic syndrome and atherosclerosis.

More attention is paid to evaluation of the role of metabolic processes in the occurrence of hypertension and cardiovascular disorders. Numerous reports demonstrate the possibility to reduce mortality from myocardial infarction by exogenous testosterone treatment. Due to the testosterone replacement therapy in cases of heart failure, patients better tolerate exercises, increase cardiac output and decrease afterload on the left ventricle. For a complete assurance in the safety of testosterone replacement therapy there is a strong need not only in the laboratory evaluation, but in a complex multi-component clinical studies regarding the dynamics of cardiovascular disease in the above-mentioned group of patients.

References

1. Ametov A.S. Vozmozhnosti korrektsii kardiovaskuljarnoj patologii u muzhchin s vozrastnym androgennym deficitom / A.S. Ametov, A.L. Vertkin, L.Ju.Morgunov [i dr.] // *Terapevticheskij arhiv*. – 2007, – N 10, – S. 50–54;
2. Amosova E.N. Metabolicheskaja terapija povrezhdenija miokarda, obuslovlennogo ishemiej: novyj pohod k lecheniju ishemicheskoj bolezni serdca i serdechnoj nedostatochnosti / E.N. Amosova // *Ukraïns'kij kardiologicheskij zhurnal*. – 2000. – №3. – S. 85–92;
3. Anisimov V. N. Molekuljarnye i fiziologicheskie mehanizmy starenija / V. N. Anisimov. // SPb : Izdatel'skij dom nauka. – 2008. – T. 2. – 434 s.;
4. Arinina E.N. Kardiovaskuljarnaja patologija i deficit androgenov / E.N. Arinina, E.S. Kolosova, L.Ju. Morgunov // *Terapevt*. – 2006. – N 4, – S. 53–60;
5. Berezov T. T. Biologicheskaja himija: uchebnik. / T. T. Berezov, B. F Korovkin. — M.: Medicina, 1998. — 704 s.
6. Buval'cev V.I. Disfunkcija jendotelija kak novaja koncepcija profilaktiki i lechenija serdechno-sosudistyh zabolevanij / V.I. Buval'cev // *Mezhdunar. Med. zhurn.* – 2001. – №3. – S. 202–209;
7. Vasil'kova O. N. Vozrastnoj androgennyj deficit, metabolicheskij sindrom i saharnyj diabet 2–go tipa: est' li vzajmosvjaz'? / O. N. Vasil'kova, T. V. Mohort, A. V. Rozhko // *Medicinskie novosti*. – 2008. – № 3. – S. 3–6;

8. Vertkin A.L. Vozrastnoj gipogonadizm u pacientov v klinike vnutrennih boleznej / A.L. Vertkin, E.N. Arinina, E.S. [i dr.] // Materialy Mezhdunarodnogo kongressa po andrologii, 24-26 maja 2006, Sochi, - S. 10-11;
9. Gvasalija B. R. Pozdnij gipogonadizm, metabolicheskij sindrom i serdechno-sosudistaja patologija / B. R. Gvasalija, P. A. Shheplev // Lechashhij vrach. - 2009. - № 11. - C. 4-8;
10. Gorpichenko I.I. Gormonoterapija polovyh rasstrojstv i drugie metody medikamentoznogo lechenija / I.I. Gorpichenko, L.P. Imsheneckaja - K.: Kosmopolis, - 2004. - 48s.;
11. Gorpichenko I.I. Delikatnaja problema pozhilyh muzhchin / I.I. Gorpichenko // Zdorov'ja Ukraïni - 2007. - № 19. - S.68;
12. Gorpichenko I.I. Zamestitel'naja androgenoterapija v seksopatologii (metodicheskie rekomendacii) / I.I. Gorpichenko, L.P. Imsheneckaja, V.E. Luchickij. - K., 2007. - 16 s.;
13. Gorpichenko I.I. Zamestitel'naja gormonal'naja terapija v zhizni muzhchiny pozhilogo vozrasta / I.I. Gorpichenko // Zdorov'ja Ukraïni - 2008. - № 22. - S.58;
14. Gorpichenko I.I. Pozdnij gipogonadizm i Nebido. Voprosy i otvety / I.I. Gorpichenko, Ju.N.Gurzhenko // Zdorov'e muzhchiny. - 2009. - №1. - S.28-34;
15. Dedov I.I. Vozrastnoj androgennyj deficit / I. I. Dedov, S. Ju. Kalinichenko. - M. : Prakticheskaja medicina, 2006. - S. 22-46;
16. Dedov I.I. Jendokrinologija / I.I. Dedov, G.A. Mel'nichenko, V.F. Fadeev. - M. : Gjeostar-Media, 2007. - 432s.;
17. Dedov I.I. Vozrastnoj androgennyj deficit u muzhchin / I.I. Dedov, S.Ju. Kalinichenko. - M. : Prakticheskaja medicina, 2006. - 240s.;
18. Kalinchenko S.Ju. Jefferektivnost' i bezopasnost' primenenija gormonal'noj terapii androgenami u muzhchin s jerektil'noj disfunkciej, vozrastnym androgennym deficitom i serdechno-sosudistymi zabolevanijami / S.Ju. Kalinchenko, L.O. Vorslov, N.L. Aglamazjan [i dr.] // «Urologija» - 2007, - N 1, - S.57-61;
19. Luchic'kij E.V. Vpliv klinichnih parametriv cukrovogo diabeta na rozvitok erektil'noï disfunkcii (ogljad literaturi ta vlasni dani) / E.V. Luchic'kij, T.P. Bezverha, S.K. Kobjakov // Endokrinologija - 2003. - T.8, №2. - S.256-265;
20. Luchic'kij E.V. Erektil'na disfunkcija u cholovikiv, hvorih na cukrovij diabet (patogeneza, diagnostika, likuvannja) / E.V. Luchic'kij // Mezhdunarodnyj jendokrinologicheskij zhurnal - 2005. - № 2 (2). - S.38-41;
21. Man'kovskij B.N. Sovremennye podhody k probleme saharnogo diabeta // Therapia (ukraïns'kij medicnij visnik), 2010. - №11(52). - S.6-8;
22. Morgunov L.Ju. Vozdejstvie testosterona na faktory riska ishemicheskoy bolezni serdca u pacientov s androgennym deficitom / Materialy II S#ezda kardiologov Sibirskogo federal'nogo okruga. Tomsk, 6-7 ijunja 2007, str. 86;
23. Morgunov L.Ju. Vozrastnoj androgendeficit i serdechno-sosudistaja patologija. «Kliniko-laboratornyj konsilium», 2006, - N13, - S. 34-39;
24. Bai V. Increase in fastingvascular tndothelial function aftershort-termorall-arginine iseffective when baseline flow-mediated dilation is low: a meta-analysisof randomized controlled trials / V.Bai, L.Sun, Vang [et al.] // Am. J. Clin. Nutr. - 2009. - Vol.89(1). - P.77-84;
25. Billups K.L. Trextile dysfunction as a market for vascular disease // Curr. Urol. Rep. - 2005. - Vol.6, №6 - P. 434-444;
26. Col V. New insights into insulin resistance pathophysiology : how it affects glucose and lipid metabolism / V. Col // Acta clinica Belgica. - 2000. - Vol. 56(3). - P. 155-162;
27. De Fronso R. A. Insulin resistance : a multifaceted syndrome responsible for NIDDM. Obesity, hypertension, dyslipidemia and atherosclerotic cardiovascular disease / R. A. De Fronso, E. Ferranini // Diabetes care. - 1991. - Vol. 14. - P. 173-194;
28. English K.M. Low dose trandermal testocterone therapy improves angina threshold in men with stable angina: a double blind placebo controlled study / K.M. English, R.P. Steeds, T.H Jones [et al.] // Cirfculacion, 2000. - Vol. 102. - P. 1906-1911;
29. Hak A.E. Low levels of endogenous androgens increase the risk atherosclerosis in elderly men: the Rotterdam study / A.E. Hak , J.C. Witteman, J.C. de Jong F.H. [et al.] // - J. Clin. Endocrinol. Metab. - 2002. - Vol. 87, №8. - P. 3632-3639;
30. Harman S.M. Adverse events observed in healthy women and men over 65 years of age treated with GH and sex steroid hormone replacement (fbstract 1635) / S. M Harman, K.M. Pabst, T. Munzer [et al.]. In Programs and Abstracts of Endocrine Society Annual Meeting, Toronto, 2000. - 394s.
31. Robins S.J. Insulin resistance and cardiovascular events with low HDL cholesterol. The Veterans Affairs HDL Intervention Trial (VA-HIT) / H.B. Rubins, F.H. Faas [et al.] // Diabetes Care. - 2003. - Vol. 26, № 5. - P. 1513-1517;
32. Rosano G.M. Acute anti-ischemic effect of testosterone in men with coronary artery disease / G.M. Rosano, F. Leonardo, P. Pagnotta [et al.]. // Cirfculacion, 1999. - Vol. 99. - P. 1667-1670;

33. Seftel A.D. The prevalence of hypertension, hyperlipidemia, diabetes mellitus and depression in men with erectile dysfunction / A.D. Seftel, P. Sun, R. Swindle // J.Urol. — 2004. — V.1271, №6. — P.2341-2345;
34. Simon D. Association between plasma total testosterone and cardiovascular risk factors in healthy adult men: The Telecom Study / D. Simon, M.A. Charles, K. Nahoul [et al.] // J. Clin. Endocrinol. Metab. — 1997. — Vol.82(2). — P.682-685;
35. Svartberg J Association of endogenous testosterone with blood pressure and left ventricular mass in men. The Tromso Study / J. Svartberg, T. Jenssen, J. Sundsfjord [et al.] // Eur J Endocrinol. — 2004. — V.150(1) — P.65-71;
36. The metabolic syndrome and cardiovascular disease mortality in middle-aged men / H.-M. Lakka, D. E. Laaksonen, T. A.Lakka [et al.] // JAMA. — 2002. — Vol. 283. — P. 2909–2916;
37. Von Eckardstein A. Testosterone and atherosclerosis / Von A.Eckardstein, F.C.W.Wu // Growth hormone & IGF research. — 2003. — Vol. 13. — P. 72–84
38. Webb C.M. Effect of testosterone on coronary vasomotor regulation in men with coronary heart disease / C.M. Webb, J.G. McNeill, C.S. Hayward [et al.] // Circulacion, 1999. — Vol. 100. — P. 1690-1693.

IMPACT OF LEAD ACETATE ON CARDIOVASCULAR SYSTEM

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Key words: cardiogenesis, heavy metals, cardiopathology, microelements.

Cardiological medical practice is paying more attention to studying the effects of environmental heavy metals on the causes and the development of cardiovascular diseases as well as the impacts they may produce on the embryo- and cardiogenesis. Cardiovascular system, which quickly responds to changes in trace element status of the organism is directly involved in the pathophysiological manifestations that occur due to effects produced by heavy metal compounds. This article summarizes the results of scientific researches devoted to the evaluation of the content of trace elements in the normal condition and in cardiac pathologies in individuals of all age groups, including children and the experimental animals. It has been proved that an imbalance of minerals under the influence of high content of environmental compounds of lead and other heavy metals, not only leads to disruption of blood vessels and the heart of a mature organism, but also reflects the intensity of the foetus intoxication.

References

1. Avcyn A.P. Mikrojelementozy cheloveka: jetiologija, klassifikacija, organopatologija / [A.P. Avcyn, A.A. Zhavoronkov, M.A. Rish i dr.]. — M. : Medicina, 1991. — 496 s.
2. Amosova E.N. Kardiomiopatii / E.N. Amosova. — Kiev : Kniga pljus, 1999. — 181 s.
3. Anikeeva T.V. Metabolicheskij sindrom kak mikrojelementoz pri ishemicheskoy bolezni serdca / T.V. Anikeeva, V.K. Grin', O.V. Sinjachenko [i dr.] // Vnutrishnja medicina. — 2009. — № 3 (15). — S. 88–92.
4. Ahmetzjanova Je.H., Bakirov A.B. Rol' svinca v formirovanii arterial'noj gipertenzii (obzor literatury) // Medicina truda i promyshlennaja jekologija. — 2006. — № 5. — S. 17–22.
5. Belozarov Ju.M. Detskaja kardiologija / Ju.M. Belozarov. — M. : MEDpress-inform, 2004. — 600 s.
6. Volosovec' O.P. Suchasni dosjagnennja ta problemi ditjachoï kardiorevmatologichnoï sluzhbi Ukraïni // Zdorov'e rebenka. — 2006. — № 1. — S. 9–14.
7. Gnatejko O.Z. Ekogenetichni aspekti patologii ljudini, sprichinenoï vplivom shkidlivih faktoriv zovnishn'ogo seredovishha / O.Z. Gnatejko, N.S. Luk'janenko // Zdorov'e rebenka. — 2007. — № 6 (9). — S. 82–87.
8. Grishhenko S.V. Gigienicheskaja ocenka sostojanija okruzhajushhej sredy Doneckoj oblasti i stepeni ee opasnosti dlja zdorov'ja naselenija / S.V. Grishhenko, I.I. Grishhenko, A.V. Abakumova [i dr.] // Vestnik gijeny i jepidemiologii. — 2007. — T. 11, № 1. — S. 8–12.
9. Zerbino D.D. Novaja teorija jetiologii koronarnoj bolezni u pacientov molodogo vozrasta. Materiali V kongresu kardiologiv Ukraïni 12-14 travnja 1997 r. / D.D. Zerbino // Ukr. kardiolog. zhurn. — 1996. — Dodatok 3. — S. 45.
10. Zerbino D.D. Novye dannye o roli svinca v geneze sosudistoj patologii / D.D. Zerbino, Ju.A. Pospishil' // Akt. vopr. pat. anatomii: Sb. nauchn. trudov. — Har'kov, 1990. — S. 108-110.
11. Zerbino D.D. Svinec — jetiologicheskij faktor porazhenija sosudov: osnovnye dokazatel'stva / D.D. Zerbino, T.I. Solomenchuk, Ju.A. Pospishil' // Mistectvo likuvannja. — 2009. — № 8 (64). — S. 12–14.

12. Korolenko T.K. Osoblivosti kardiotsichnoi dii vazhkih metaliv — svincju, rtuti i margancju — z urahuvannjam vikovyh reakcij organizmu / T.K. Korolenko // Aktual'nye problemy transportnoj medicyny. — 2010. — № 4 (22). — S. 131–138.
13. Kudrin A.V. Immunofarmakologija mikrojelementov / A.V. Kudrin, A.V. Skal'nyj, A.A. Zhavoronkov [i dr.]. — M. : KMK, 2000. — 537 s.
14. Jellenhorn Met'ju Dzh.. Medicinskaja toksikologija: diagnostika i lechenie otravlenij u cheloveka. T. 2 / Met'ju Dzh. Jellenhorn. — M. : Medicina, 2003. — 1029 s.
15. Mitciev A.K. Vlijanie acizola na gemodinamicheskie i pochechnye projavlenija jeksperimental'noj svincovoj intoksikacii : avtoref. dis. na soiskanie uchenoj stepeni kand. med. nauk : spec. 14.00.16 «Patologicheskaja fiziologija» / A.K. Mitciev. — M., 2009. — 19 s.
16. Mutaf'jan O.A. Kardiomiopatii u detej i podrostkov / O.A. Mutaf'jan. — SPb. : Dialekt, 2003. — 272 s.
17. Nagorna N.V. Biologichna rol' makro- ta mikroelementiv v organizmi ditini. Diagnostika, korekcija ta profilaktika diselementoziv / N.V. Nagorna, G.V. Dubova, V.V. Alferov : Metodichni rekomendacii. — K., 2010. — 36 s.
18. Nacional'na dopovid' pro stan navkolishn'ogo prirodnogo seredovishha v Ukraïni u 2009 roci / Ministerstvo ohoroni navkolishn'ogo prirodnogo seredovishha Ukraïni. — 2009. — 548 s.
19. Nef'odova O.O. Vznachennja vplivu acetatu svincju na hid kardiogenezu shhura v eksperimenti / O.O. Nef'odova // Visnik problem biologii i medicini. — 2014. — vip.4, T.2 (114). — S. 243-246.
20. Nef'odova O.O. Modifikujucha dija citratu sribla na vpliv acetatu svincju v eksperimenti / O.O. Nef'odova // Svit medicini ta biologii.-2014. - № 4 (47). - S. 169-172.
21. Okuneva G.N. Rol' himicheskikh jelementov v razvitii mineralizacii klapana pri aortal'nom poroke / G.N. Okuneva, E.N. Levicheva, I.Ju. Loginova // Kardiolog. serdečno-sosud. hir. — 2009. — Vol. 3, № 59. — P. 59-63.
22. Ostropolec S.S. Miokard. Struktura i funkcija v norme i patologii. — Doneck : Nord-Press, 2007. — 212 s.
23. Reshetnjak O.A. Znachenija kadmija, kalija i kal'cija dlja funkcional'nogo sostojanija serdečno-sosudistoj sistemy sportsmenov / O.A. Reshetnjak, I.A. Evsta'eva, E.V. Evsta'eva // Uchenye zapiski Tavricheskogo nacional'nogo universiteta im. V.I. Vernadskogo. Ser. «Biologija, himija». — 2010. — T. 23 (62), № 3. — S. 129-135.
24. Sinjachenko O.V. Metally pri osteoartroze / O.V. Sinjachenko. — Doneck : Nord-Press, 2008. — 404 s.
25. Skal'nyj A.V. Mikrojelementozy cheloveka (diagnostika i lechenie): Prakticheskoe rukovodstvo dlja vrachej i studentov medicinskih vuzov / A.V. Skal'nyj. — M. : Izd-vo KMK, 2001. — 96 s.
26. Skal'nyj A.V. Himicheskie jelementy v fiziologii i jekologii cheloveka / A.V. Skal'nyj. — M. : Izdatel'skij dom «Oniks 21 vek», Mir, 2004. — 216 s.
27. Trahtenberg I.M. Rol' jendotelija v mehanizmah razvitija vazotoksicheskikh jeffektov svinca / I.M. Trahtenberg, S.P. Lugovskoj // Zhurnal AMN Ukraïni. - 2005.— T. 11, № 1. - S. 63-74.
28. Trahtenberg I.M. Svinceva nebezpeka v Ukraïni / I.M. Trahtenberg // Naukovij zhurnal MOZ Ukraïni. - 2013. — № 3. - S. 50-60.
29. Chajka V.K. Obmen makro- i mikrojelementov u novorozhdennyh detej v Doneckom regione / V.K. Chajka, Ju.A. Batman, A.V. Kozinskij [i dr.] // Mediko-social'nye problemy sem'i. — 2006. — T. 11, № 3 — S. 68-77.
30. Chekunova M.P. Aktual'nye problemy gigienicheskij toksikologii / M.P. Chekunova, A.D. Frolova. — M., 1980. — 14-18 s.
31. Chekunova M.P. Sovremennye problemy profilakticheskij toksikologii / M.P. Chekunova, A.D. Frolova. — M., 1991. — 36-45 s.
32. Shatorna V.F. Eksperimental'ne doslidzhennja modifikujuchogo vplivu nanoakvahelatu citratu zolota na embriotoksichnist' acetatu svincju u shhuriv / V.F. Shatorna, V.I. Garec', E.M. Bilec'ka [ta in.] // Medichni perspektivi. — 2014. — № 2, T. III. — S. 12-17.
33. Shatorna V.F. Metodika viznachennja embriotoksichnosti ta teratogennosti v morfologichnih eksperimentah / V.F. Shatorna, V.I. Garec', I.I. Kolosova [ta in.] // Visnik problem biologii ta medicini. — 2014. — Vip. 3, T. 3 (112). — S. 235-240.
34. Shatornaja V.F. Analiz modifizirujushhego vlijanija citratov zolota, serebra i zheleza na jemriotoksichnost' acetata svinca v jeksperimente / V.F. Shatornaja, V.G. Kaplunenkov, I.S. Chekman [i dr.] // Morfologija. — 2014. — №1, T.8. — S. 99-103.
35. Shhorichna dopovid' pro stan zdorov'ja naselennja Ukraïni ta sanitarno-epidemichnu situaciju. 2009 rik. — K., 2010. — 451 s.
36. Afridi H.I. Evaluation of toxic metals in biological samples (scalp hair, blood and urine) of steel mill workers by electrothermal atomic absorption spectrometry / H.I. Afridi, T.G. Kazi, M.K. Jamali [et al.] // Toxicol. Ind. Health. — 2006. — Vol. 22, № 9. — P. 381-393.

37. Altekin E. The relationship between trace elements and cardiac markers in acute coronary syndromes / E. Altekin, C. Coker, A.R. Sizman [et al.] // J. Trace Elem. Med. Biol. — 2005. — Vol. 18, № 3. — P. 235–242.
38. Barrington J.W. Selenium deficiency and miscarriage: a possible link / J.W. Barrington, P. Lindsay, D. James [et al.] // Br. J. Obstet. Gynaecol. — 1996. — Vol. 103. — P. 130–132.
39. Bonazzola P. Lithium and KB-R7943 effects on mechanics and energetics of rat heart muscle / P. Bonazzola, P. Egido, F.D. Marengo [et al.] // Acta Physiol. Scand. — 2002. — Vol. 176, № 1. — P. 1–11.
40. Broderick T.L. Effect of a novel molybdenum ascorbate complex on ex vivo myocardial performance in chemical diabetes mellitus / T.L. Broderick, J. Bailey, K.J. Gagnon [et al.] // Drugs RD. — 2006. — Vol. 7, № 2. — P. 119–125.
41. De L. Costello. Micronutrient status during pregnancy and outcomes for newborn infants in developing countries / Costello De L., Osrin D. // J. Nutr. — 2003. — Vol. 133. — P. 575–645.
42. Dong F. Chromium (D-phenylalanine)₃ improves obesity induced cardiac contractile defect in ob/ob mice / F. Dong, X. Yang, N. Sreejayan [et al.] // Obesity (Silver Spring). — 2007. — Vol. 15, № 11. — P. 2699–711.
43. Erickson J.R. A dynamic pathway for calcium²⁺-in dependent activation of CaMKII by methionine oxidation / J.R. Erickson, M.L. Joiner, X. Guan, W. Kutschke // Cell. — 2008. — Vol. 133, № 3. — P. 462–474.
44. Gidding S.S. Cardiovascular risk factors in adolescents / S.S. Gidding // Curr. Treat. Options Cardiovasc. Med. — 2006. — Vol. 8 (4). — P. 269–275.
45. Goyer R.A. Metal Toxicology / R.A. Goyer, C.D. Klaassen, M.P. Waalkes [et al.]. — SanDiego; New York : Acad.Press, 1995. — 525 p.
46. Frustaci A. Marked Elevation of Myocardial Trace Elements in Idiopathic Dilated Cardiomyopathy Compared With Secondary Cardiac Dysfunction / A. Frustaci [et al.] // JACC. — 1999. — Vol. 33, № 6. — P. 1578–1583.
47. Masironi R. Trace Elements and Cardiovascular Diseases / R. Masironi // Occup. Environ. Med. — 2007. — Vol. 47, № 12. — P. 776–780.
48. Tubek S. Role of trace elements in primary arterial hypertension: is mineral water style or prophylaxis? / S. Tubek // Biol. Trace Elem. Res. — 2006. — Vol. 114, № 1–3. — P. 1–5.