

**Ministry of health of Ukraine
Higher state educational establishment of Ukraine
“Ukrainian medical stomatological academy”**



«Approved

At the sitting of the chair of oncology
The minutes №2 from September 1, 2018
y Manager of chair of oncology
MD, professor V.P.Bashtan

**METHODICAL POINTING
FOR INDEPENDENT WORK OF STUDENTS
DURING PREPARATION TO PRACTICAL EMPLOYMENT**

<i>Educational discipline</i>	<i>Oncology</i>
<i>Module №</i>	<i>I</i>
<i>Semantic module №</i>	<i>3</i>
<i>Theme of employment</i>	Malignant tumors of urinary system
<i>Course</i>	<i>V</i>
<i>Faculty</i>	<i>Medical №1, №2</i>

Poltava - 2018

**Theme of employment: MALIGNANT TUMORS OF URINARY SYSTEM
(kidney, renal pelvis and ureter, urinary bladder)**

Amount of hours: 2 educational hours.

Material and methodical providing of theme: an educational room chambers of urology department, is bandaging. Methodical developments for students, tests, tasks, tables.

1. Actuality of theme.

In recent years morbidity on the cancer of urinary organs grew considerably. Growth of morbidity proceeds. In Ukraine morbidity on the cancer of urinary organs makes from 2 to 6 % among all malignant tumors. Amount of diseases among men twice-three times higher, than at women. More frequent in all people are ill by age 40-60 years, although, as was already marked, illness had a tendency to the rejuvenation.

1. Educational aims:

To know: (D = II)

- etiology and pathogeny of cancer of urinary organs;
- obligatory methods of inspection of patients with the cancer of urinary organs;
- clinical classification of cancer of urinary organs;
- basic methods of treatment of patients with the cancer of urinary organs (surgical, combined, complex);
- risk groups on the cancer of urinary organs.

To be able: (D = III)

- to define the stage of distribution of tumor process;
- to conduct the common objective inspection of patients;
- to appoint the additional methods of inspection at patients with the cancer of urinary organs;
- to execute the cannulation of urinary bladder;
- to execute the biopsy of peripheral metastases lymphatic nodes;
- to appoint individual treatment of patients with the cancer of urinary organs depending on a stage, common state and age of patient;
- to appoint preventives on the fight against the cancer of urinary organs.

3. Materials of before auditorium independent work.

3.1. Base knowledges, abilities, skills necessary for the study of theme (intradisciplinary integration).

Discipline	To know	To be able
Anatomy	Construction of the urinary system blood supply and lymph flow.	
Stalemate. anatomy	Morphological changes which appear at new formations of the urinary system malignant and of high qualities	To estimate the results of cytological and histological researches of biopsy.
Physiology	Principles of functioning of the urinary system. Normal values of functional tests, radioisotope research indexes of biochemical and common clinical blood and urine tests.	To estimate the results of functional tests, radioisotope research indexes of biochemical and common clinical blood and urine tests.
General surgery and urology	Methods of physical, laboratory and instrumental inspections of the urinary system. Principles of surgical treatment of diseases of the urinary system.	To conduct physical and clinical inspection of patients with the cancer of organs of the urinary system. To execute the cannulation of urinary bladder; biopsy of peripheral metastatic lymphatic nodes.

3.2. Table of contents of theme.

1. Kidney cancer

Epidemiology. Nephroncuss at adults meet it is comparative rarely, being 2 - 3% all new formations. Overwhelming age of patients is 55 - 60 years. Men are ill the cancer of kidney in two times more frequent, than women.

Etiology. Etiologic factors of development of tumors are studied it is not enough. It is instrumental in appearance of tumor:

- dumping of chemical;
- smoking of tobacco;
- application of hormonal preparations and cytostatics;
- disbalance of sexual hormones (estrogens);
- ionizing the radiation;
- carriage of viruses;
- influencing of nitrates;
- at illness of Heppel-Linday and polycystic kidney the noted high morbidity on the cancer of kidney.

Pathoanatomy. The tumors of kidney parenchyma and renal pelvis are distinguished. Classification of kidney cancer is accepted:

I. Tumors of kidney parenchyma.

- A. Benign (adenoma, lipoma, fibroma, leiomyoma, hemangioma and other)
- B. Malignant tumors (adenocarcinoma, sarcoma, Wilms tumor).
- C. Metastatic nephroncuss.

II. Tumors kidney pelvis.

- A. Benign tumors (papilloma, endometrioma).
- B. Malignant tumors (papillary cancer, squamous cancer, sarcoma).

Most kidneys tumors are clear cell carcinoma. Cancers kidneys tumors are characterized by expressed vascularisation and rapid metastasis.

Ways of metastases:

- Lymphogenic are tumors metastases in regional lymphatic nodes (paracaval, paraaortal and in the lymphatic nodes of gate of kidneys).
- Hematogenous is the metastases takes place more frequent, than by a lymphogenic way. After the defeat by metastases the on the first place located lung, then liver, bones, cerebrum.

Classification of kidney cancer (code of MKX – Oh C64) by system of TNM (5th edition, 1997 year). TNM Clinical classification

T is the Primary tumor

Tx — it is not enough information for estimation of primary tumor

T0 is a primary tumor does not concerne

T1 is tumor of to 7 cm in most measuring, limited by a kidney

T2 is tumor over 7 cm in most measuring, limited by a kidney

T3 is a tumor spreads on the large veins of either adrenal gland or parakidney fabrics, but within the limits of fascia Gerota's

T3a is a tumor spreads on adrenal gland or parakidney fabrics, but within the limits of fascia Gerota's

T3b is massive distribution of tumor in a cava(и) kidney or below from a diaphragm

T3c is massive distribution of tumor in a cava(и) kidney or higher from a diaphragm

T4 is a tumor spreads outside fascia Gerota's

N is the regional lymphatic nodes.

Nx — it is not enough information for estimation of the state of regional lymphatic nodes

N₀ — there are no signs of defeat of regional lymphatic nodes

N₁ it is metastasis of cancer in one regional lymphatic nodes

N₂ are metastasis of cancer in a few regional lymphatic nodes

M is the Remote metastases

Mx — it is not enough information for determination of remote metastases

M0 are remote metastases do not concerne

M1 is present remote metastases

Grouping after stages

Stage And	T1	N ₀	M0
Stage II	T2	N ₀	M0
Stage III	T1	N ₁	M0
	T2	N ₁	M0
	T3	N ₀ , N ₁	M0
Stage IV	T4	N ₀ , N ₁	M0
	any T	N ₂	M0
	any T	any N	M1

Clinic. A kidney cancer long time runs across asymptomatic. The classic triad of symptoms is a tumor, that palpation; macrohematuria; pains in loin or in a stomach. Far more frequent there is one how two from these symptoms.

- Hematuria is the most frequent display of illness that is observed in 70% patients, thus in 45 - 50% patients hematuria is the first symptom of disease, a blood in urine appears suddenly, without the forecasters of pain.
- Pain at patients by the cancer of kidney is marked in 60 - 70% supervisions.
- The fervescence sometimes can be the unique symptom of kidney cancer. Patients with the fever of no clear origin must be added to the detailed urology inspection.
- Loss of mass of body (in 30%).
- Indispositions, nightly sweats and anaemia (15 - 30% patients).
- Paraneoplastic syndromes (hypercalcemia, hypertension, hepatic disfunctions).
- Diagnostics.
- The common analysis of urine finds out hematuria.
- The common analysis of blood finds out anaemia enhanceable RSE.
- Cytological research of urine takes above all seat at diagnostics of tumors of ureter and kidney pelvis. To research the standards of urine are added taken at the end of urination, either taken away by a catheter or smear from the wall of urinary ways, taken at a cystoscopy.
- ULTRASOUND finds out the presence of tumor fabric (infiltrative, that does not form). In addition, under the control ULTRASOUND the aiming biopsy of tumor is executed with drawing of material for cytological research.
- A cystoscopy is endoscopy procedure, that allows to conduct the review of urinary bladder, state of bee-entrances of ureters, find out bleeding or selection of blood from the bee-entrance of ureter on the side of defeat.
- Uretroscopy is endoscopy procedure that allows to conduct a review and aiming biopsy of area of defeat in an ureter.
- Excretory urography one of leading methods of research, often finds out the defect of filling of bowls (symptom of amputation of bowls). Research must be begun with a surveying urography, which gives information about localization kidney, its contours and sizes.
- Retrograde ureteropyelography finds out the defects of filling of kidney pelvis, however dangerous by possibility of infectioning.
- Sciagraphy of thorax finds out pulmonary metastases typical place of metastases.
- CT finds out a tumor, its prevalence presence of metastases in regional lymphatic knots, allows to differentiate very dense urate stone from tumors.

- Angiography kidney allows to find out vascularization of tumor. Hypovascular tumors are an adenoma, adenocarcinoma. Hypervascular tumors – clear cell carcinoma, polymorphocellular, dark cell carcinoma cancer.

Treatment.

Surgical treatment is radical nephrectomy with the delete of lymphatic nodes is method of choice for the kidney cancer of I, II and III stages. At the IV stage conduct symptomatic therapy, but possible palliative nephrectomy for vital testimonies.

Radial therapy and chemotherapy – is used in the treatment, but they ineffective and have auxiliary character.

Endocrinotherapy is extraordinarily ineffective. Can be used as auxiliary treatment after a palliative nephrectomy.

Immunotherapy– in recent years is considered the most effective and perspective method of medicinal treatment. Preparations interferon are applied.

Prognosis. Efficiency of treatment concerns by the stage of disease. The five-year survival of patients with the cancer of kidney after radical operation makes: at the I stage – to 70%; at the II stage – to 60%; at the III stage – to 30 %; at the IV stage – to 7%.

B. Nephroblastoma (tumor of Wilms).

Tumor of Wilms meets in age from 6 month to 5 years and is 20 - 30% all malignant new formations at children. The bilateral defeat makes 3 - 10% cases.

Etiology. Possible mesadermal, mesonephroi and metanephrogenic reasons of tumor.

Pathoanatomy. The microscopic structure considerably varies in different tumors different areas of one tumor nodes. There are sarcomatosis, fusiform or granulose cells, rounded shallow undifferentiated cells of embryo characteria, epithelial cells of different form and size.

Clinic. Asymptomatic formation, that appears, as a rule, by parents at bathing of child or at the clinical inspection. Formation with a smooth surface, lobular, is often mobile. First displays in age from 1 to 4 years of life; most patients in age between 1 and 3 year.

Symptoms, which appear on the late stages of disease is pain in an abdominal region, hematuria, anorexia. A tumor crosses a midline at the increase in sizes.

Associated anomalies is the tumor of Wilms is often related to the innate anomalies (aniridie, hermaphroditism, cryptorchidism, anomalies of urinary ways and other).

Diagnostics. Methods of diagnostics the same, as well as at inspected patients with suspicion on the cancer of kidney (see more high).

Clinical classification of tumor of Wilms

I stage is a tumor is limited by a bud and can be withdrawn at an intact capsule;

II stage is a tumor is widespread outside a kidney; at a resection find out the defeat of capsule;

III stage is presence of tumor in an abdominal region; germination of capsule; metastases which can not be fully remote;

IV stage are hematogenous metastases in a liver, lung, bones, brain;
The V stage is a bilateral tumor (defeat of both kidney).

Treatment. There must be the applied complex approach in treatment of tumor of Wilms.

- Surgical treatment is operative interference depends on the stage of tumor (The IV and V stages to operative treatment are not subject).
 - ✓ Radical nephrectomy.
 - ✓ Resection of kidney with a tumor (in default of opposite bud or at its anomaly).
 - ✓ Diagnostic laparotomy revision of opposite kidney; delete or biopsy of paraaortic lymphatic nodes.
- Chemotherapy the actinomycin D and vincristin is used in medical aims.
 - ✓ Preparations appoint after operation to all patients with the II and III stage of tumor of Wilms and some patients with the I stage.
 - ✓ At the IV and V stage of disease appoint a chemotherapy to operation.
 - ✓ To the patients with a widespread tumor appoint doxorubicin.
- Radical therapy is rotated at treatment the III - V stages of tumor.

Prognosis. The survival of patients depends on the histological structure of tumor. The medical 2-years-old level of survival makes: at the stage of I - 90%; at a stage II - 80 - 85%; at a stage III - 70 - 75%; at a stage IV - 60 - 65%; at a stage V - 50%.

2. Tumors of kidney pelvis and ureter

Epidemiology. The primary tumors of kidney bowl meet relatively rarely and make approximately 5 - 10% kidney cancer and overhead urinary ways. The disease meets more frequent at men in age 40 - 60 years. Often there are plural tumors, including the bilateral defeats.

Etiology. Factors of environment, which include smoking and systematic influencing of aniline dyes and rubbers multiply the risk of disease. Endemic nephropathy (Balkan nephropathy) is the inherited disease that meets in Bulgaria, Yugoslavia, also multiplies the risk of disease.

Pathoanatomy. Histological variants: papillary cancer, squamous cancer, adenocarcinoma, sarcomas, metastases defeats. The papillary forms of cancer make 85% malignant tumors of kidney pelvis and ureter.

Classification of cancers of kidney pelvis and ureter
(code of MKX - Oh C65, C64) by system of TNM (5th edition, 1997 year).

TNM Clinical classification

T is the Primary tumor

T_x — it is not enough information for estimation of primary tumor

T₀ is a primary tumor does not concerne

T_a is neoinvasive papillary carcinoma

T_{is} — carcinoma in situ

T1 is a tumor spreads on subepithelial connecting fabric

T2 is a tumor spreads on a muscular layer

T3 is (kidney pelvis) a tumor spreads outside a muscular layer on a round pelvis tissue or parenchima of kidney

T3 is (ureter) a tumor spreads outside a muscular layer on a round ureter for tissue

T4 is a tumor spreads neighbouring organs or round kidneys for tissue

N is the regional lymphatic nodes.

N_x — it is not enough information for estimation of the state of regional lymphatic nodes

N₀ — there are no signs of defeat of regional lymphatic nodes

N₁ it is metastasis in one regional lymphatic node of to 2 cm in most measuring

N₂ are metastases in one regional lymphatic node by a size over 2 cm, but to 5 cm; or in a few lymphatic nodes to 5 cm size in most measuring

N₃ it is metastasis in a regional lymphatic node over 5 cm in most measuring

M is the Remote metastases

M_x — it is not enough information for determination of remote metastases

M₀ are remote metastases do not concerne

M₁ is present remote metastases

Grouping after stages

Stage of 0a	T _a	N ₀	M ₀
Stage of 0is	T _{is}	N ₀	M ₀
Stage And	T1	N ₀	M ₀
Stage II	T2	N ₀	M ₀
Stage III	T3	N ₀	M ₀
Stage IV	T4	N ₀	M ₀
	any T	N ₁ , N ₂ , N ₃	M ₀
	any T	any N	M ₁

Clinic. Clinical displays similar to the kidney cancer. Macrohematuria is observed in 70 - 95% patients. Sometimes macrohematuria is accompanied sickly and tumor syndrome.

Diagnostics. Apply those methods of diagnostics, what at the cancer of kidney.

Treatment. In connection with that tumors of kidney bowl and ureter and is not practically added to the cytostatics influencing, is the basic method of treatment surgical:

- Delete by the single block of kidney together with an ureter and area of urinary bladder.
- Organ safety approach: a partial resection (partial nephrectomy) can be applied at patients with an unique kidney.
- In the initial stage of defeat by the tumor of distal part of ureter, a kidney can be stored. The resection of ureter is executed with the area of urinary bladder with application of different types of the plastic arts.

3. Cancer of urinary bladder

Epidemiology. A tumor behaves to the most frequent malignant new formations (about 3% all tumors and 30 - 50% tumors of urogenital organs). The cancer of urinary bladder at men meets in 3 - 4 times more frequent, than at women. More frequent in all meets in age 40 - 60 years.

Etiology. The origin of cancer of urinary bladder is related to smoking of tobacco, and also with action of some chemical and biological carcinogens.

- Industrial carcinogens in-use in rubber, lacquer-paint, paper and chemical production.
- Carcinogenesis urinary bladder often enough results in the origin of squamous cell carcinoma.
- Other etiologic agents –cyclophosphamide, phenacetin, kidney stone and chronic infection.

Pathoanatomy. Histological variants of cancer of urinary bladder are the tumors of urinary bladder more frequent in all have the transitional cell carcinoma origin (nipple, transitional cell carcinoma, squamous cell carcinoma, adenocarcinoma).

Classification of cancers of urinary bladder (code of MKX – Oh C67) by system of TNM (5th edition, 1997 year).

TNM Clinical classification

T is the Primary tumor (the index of “m” must be added to the category of T for multiplicity of tumors; the index of “is” can be added to any category of T for denotation of presence of concomitant carcinoma in situ)

T_x — it is not enough information for estimation of primary tumor

T₀ is a primary tumor does not concerne

T_a is noinvasive papillary carcinoma

T_{is} — carcinoma in situ: “flat tumor”

T1 is a tumor spreads on subepithelial connecting fabric

T2 is a tumor spreads on a muscular layer

T2a is a tumor spreads on a superficial muscle (internal half)

T2b is a tumor spreads on a deep muscle (external half)

T3 is a tumor spreads on a round for tissue:

T3a — microscopically

T3b —macroscopic (extravesical the masses)

T4 is a tumor spreads on any of such structures: prostate, uterus, vagina, wall of pelvis, abdominal wall

T4a is a tumor spreads on a prostate, either uterus or vagina

T4b is a tumor spreads on the wall of pelvis or abdominal wall

N is the regional lymphatic nodes.

N_x — it is not enough information for estimation of the state of regional lymphatic nodes

N₀ — there are no signs of defeat of regional lymphatic nodes

N₁ it is metastasis in one regional lymphatic node of to 2 cm in most measuring

N₂ are metastases in one regional lymphatic node by a size over 2 cm, but to 5 cm;
or in a few lymphatic nodes to 5 cm in most measuring

N₃ it is metastasis in a regional lymphatic node over 5 cm in most measuring

M is the remote metastases

M_x — it is not enough information for determination of remote metastases

M₀ are remote metastases do not concerne

M₁ is present remote metastases

Grouping after stages

Stage of 0a	T _a	N ₀	M ₀
Stage of 0is	T _{is}	N ₀	M ₀
Stage And	T1	N ₀	M ₀
Stage II	T2a	N ₀	M ₀
	T2a	N ₀	M ₀
Stage III	T3a	N ₀	M ₀
	T3b	N ₀	M ₀
	T4a	N ₀	M ₀
Stage IV	T4b	N ₀	M ₀
	any T	N ₁ , N ₂ , N ₃	M ₀
	any T	any N	M ₁

Clinic.

- Hematuria (selection of urine with a blood) is the most frequent symptom of ephithelial tumors of urinary bladder. Hematuria can gain varied character (macrohematuria, microhematuria, intermittent hematuria, total hematuria). Macrohematuria can entail tamponada of urinary bladder with clot of blood.
- Dysuria (violation of urinations) is the characteristic symptom of cancer of urinary bladder that develops as a result of irritation of mucus shell of urinary bladder by a blood and its clot, damage of nervous fibres during gradual infiltration by the tumor of wall of urinary bladder.
- Pyuria (selection of festering urine) – arises up at joining of infection as a result of the laboured outflow of urine. Clinically shows up a sharp cystitis.
- Sickly syndrome – maybe.

Diagnostics.

- Bimanual research is needed for determination of prevalence of process. If is succeeded papepable tumor, it testifies to the invasion defeat of wall of urinary bladder.
- A excretory urography must be executed to every patient with macrohematuria. With its help it is possible to define the defects of filling of urinary bladder and to find out the signs of defeat of overhead urinoexcretory ways.
- Urethrocystoscopy is leading method of research at suspicion on the cancer of urinary bladder, absolutely necessary for estimation of the state of mucus shell of urethra and urinary bladder.
- Endoscopy biopsy of tumor. It is conducted for determination of volume of defeat and histological type of tumor.
- Cytological research of urine informing both at the tumors defeats of heavy degree and to cancer of in situ.
- Ultrasound finds out a depth germination of primary tumor and presence of metastases in regional lymphatic nodes.
- CT and MRI are the most informing methods for determination of prevalence of process.
- Sciagraphy of organs of thorax allows to find out metastases in lung.

Treatment.

The choice of method of treatment depends on the histological form of tumor, its size, localization, character of growth, stage of disease and common state of patient.

- Surgical operation is the basic method of treatment of cancer of urinary bladder.

At to superficial growth of tumor (T_{is} , T_1) without the defeat of muscular shell of organ is used:

- ✓ Transurethral (endovesical) electro-coagulation.
- ✓ Transurethral resection.
- ✓ Electro-coagulation (electroscission) of tumor urinary bladder.

At the invasive forms of cancer of urinary bladder in the II-III stages (T_{2a} - T_{3b}) is used:

- ✓ Partial resection of urinary bladder at the limited, remote from entrances ureters tumors, which will strike an apex front, lateral and back walls of urinary bladder.
- ✓ Subtotal resection of urinary bladder with transplantation of one whether two ureters (ureterovesicostomy) is executed at localization of tumor near-by the entrances of ureters.
- ✓ Cystectomy (delete of urinary bladder) - apply at treatment patients with the diffusive superficial defeats; at the plural tumors of category of T3 and single tumors of that category, if basis of tumor exaggerates 5 – 6cm in most measuring, especially, if they are localized in the area of triangle of Luetz; at the relapses of tumor after a vast resection.
- ✓ Radical cystectomy is method of choice in treatment of deeply infiltrate tumors of category of T4a. Operation includes the delete of urinary bladder and prostate at men; delete of urinary bladder, urethra, front wall of vagina and uterus, at women.

At a cystectomy provide the derivate of urine by a way:

- ✓ Ureterocutaneostomy is leading out of ureters on a skin.
 - ✓ Ureteroileocutaneostomy, ureterosigmoidostomy is one-moment the plastic arts of urinary bladder by the segment of colon thin or.
 - ✓ Ureterosigmoidostomy is transplantation of ureters in a sigmoid bowel.
- To palliative (symptomatic) and operations belong after vital testimonies:
- ✓ Ureterocutaneostomy – for the external derivate of urine.
 - ✓ High section of urinary bladder with a cystostomy – for liquidation of tamponada of clot blood, stop of bleeding and external derivate of urine.
 - ✓ Forming of unnatural anus (colostomy) – at formation of cystorectal fistula.
 - Radial therapy. It is used in many cases to the cancer of urinary bladder as the independent method of treatment or in combination with surgical treatment or chemotherapy. Most widespread controlled from distance radial therapy.
 - ✓ Preoperative radial therapy – can be applied at all stages of cancer of urinary bladder as an intensive course (4 course for 5 gr) and next operation in 1 - 3 days, or fraction course (2 gr for a course to the total local dose 30 - 40 gr) and next operation in 3 - 4 weeks after the exit of patient from a radial syndrome).
 - ✓ Postoperative radial therapy – is conducted by a fraction course. To the postoperative irradiation the prophylaxis of relapses is a testimony and palliative or de bene esse radical character of the executed operation.
 - ✓ Palliative radial therapy (how independent or basic method of treatment) – is used at patients with a inoperable tumor, or at patients with heavy concomitant pathology that eliminates possibility of operative treatment. In such cases irradiation is conducted by a finely-fraction course (a valid for one occasion dose is 2 - 2,5 gr, a total local dose is to 70 gr).
 - Chemotherapy – is used as additional and mean of treatment of cancer of urinary bladder alternative to the surgical method:
 - ✓ System chemotherapy (adjuvant and neoadjuvant) – is conducted to the patients in the III – IV stages of cancer of urinary bladder.
 - ✓ Local intravesical chemotherapy (adjuvant and neoadjuvant) – reduces frequency of relapses of superficial tumors of urinary bladder.
 - ✓ Local intravesical immunotherapy with application of vaccine of BCG and interferons reduces frequency of relapses twice.

Prognosis. A prognosis depends on the stage of process and character of the conducted treatment. After radical operation the five-year survival reaches to 50%. The best results are observed at the combined treatment (resection of urinary bladder with radial therapy).

3.3. Recommended literature:

a) Basic

1. Oncology / [Edited by prof. I.B.Shepotin, prof. R.T.Evans]. – Kiev: Medicine, 2008. – 496 p.
2. Clinical oncology / [V.Sorkin, A.Popovich, Yu. Dumanskiy and oth.]; under the edit. of the prof. G.V.Bondar. – Simferopol, 2008. – 192 p.

b) Additional

1. Ain KB: Anaplastic thyroid carcinoma: a therapeutic challenge. Semin Surg Oncol 1999; 16: 64-69.
2. Scully C, Field JK, Tanzawa H: Genetic aberrations in oral or head and neck squamous cell carcinoma (SCCHN): 1. Carcinogen metabolism, DNA repair and cell cycle control. Oral Oncol 2000 May; 36 (3): 256-63.

3.4. Materials for self-control:

A. Questions for self-control.

1. Transfer the etiologic factors of cancer of kidney.
2. Transfer the etiologic factors of cancer of urinary bladder.
3. What clinical symptoms at patients with the cancer of kidney and urinary bladder.
4. Clinical classification of cancer of kidney and urinary bladder.
5. Name the additional methods of inspection of patients with the cancer of organs of the urinary system.
6. Role of cystoscopy in early diagnostics of cancer of urinary bladder.
7. What aiming biopsy?
8. Surgical method of treatment of cancer of kidney and urinary bladder.
9. Combined treatment of patients with the cancer of organs of the urinary system.
10. Chemotherapy and immune methods of treatment of patients with the cancer of organs of the urinary system.

B. Tests for self-control
on a theme: “Malignant tumors of organs of the urinary system”

A I. Malignant tumor from the epithelium of kidney parenchima at adults is accepted to name:

- a) adenoma of kidney;
- b) hypernephroma;
- c) hypernephroid carcinoma;
- d) renal cell carcinoma;
- e) small cell carcinoma.

II. At the cancer of kidney more frequent in all there are remote metastases in:

- a) liver;
- b) lung;
- c) opposite kidney;
- d) cerebrum;
- e) renal gland.

III. The first display of cancer of kidney more frequent is:

- a) pain in loin;
- b) megascopic kidney accessible to palpation;
- c) anaemia;
- d) subfebrile temperature;
- e) hematuria.

IV. Nephrectomy at the cancer of kidney and single metastasis in a lung:

- a) unroutine;
- b) routined regardless of age;
- c) routined in young age;
- d) rotined at patients in declining years;
- e) not routined at patients in declining years.

V. The most frequent symptom of tumor of urinary bladder is:

- a) weak stream of urine;
- b) dysuria;
- c) pain;
- d) hematouria;
- e) difficulty urinaria.

VI. Cancer of urinary bladder more frequent all is localized:

- a) on a left lateral wall;
- b) on a right lateral wall;
- c) on upper part;
- d) in the area of neck;
- e) in the area of triangle of Lueto.

VII. At suspicion on the tumor of urinary bladder in the first turn execute:

- a) surveying sciagraphy of urinary ways;
- b) computer tomography;
- c) ultrasound;
- d) excretory urography;
- e) cystoscopy.

VIII. To the factors of risk of increase of frequency of cancer of urinary bladder take:

- a) decline of immune defence of organism;
- b) smoking of tobacco;
- c) aniline dyes;
- d) chronic inflammatory diseases;
- e) all are above enumerated.

IX. The cancer of urinary bladder more frequent metastases:

- a) in a rectum;
- b) in the lymphatic of inguinal nodes;
- c) in regional lymphatic node;
- d) in lung;
- e) in a liver.

X. A transurethral electro-resection is at the cancer of urinary bladder palliative:

- a) at T1;
- b) at T2;
- c) at T1-T2;
- d) at T3;
- e) at T3-T4.

Standards of answers to the tests for self-control:

1. d) renal cell; (+)
2. b) lung; (+)
3. e) hematuria;(+)
4. b) routined regardless of age; (+)
5. d) hematuria; (+)
6. e) in the area of triangle of Luetz; (+)
7. e) cystoscopy; (+)
8. e) all are above enumerated. (+)
9. c) in regional lymphatic nodes; (+)
10. e) at T3 – T4. (+)

C. Situations tasks for self-control.

Task №1 (№ 374).

Patient 42 years on a background a complete health noticed a blood in urine which at first appeared periodically. Later began to notice dysuria disorders and pain, especially at the end of urination, pain in a suprapubic area and crotch. At palpation: pain in the projection of urinary bladder, the compressions are not present. It is not discovered at digital research of rectum of pathology.

Question:

1. About what character of disease is it possible to think?
2. What special methods of research does it follow to use ?

Task № 2 (№ 381).

A patient 49 years appealed with complaints in the presence of blood in urine, pain in a lumbar area. First noticed a blood in urine a few months ago non-permanent, and then a blood began to appear again in great numbers and even as clots. Lately all anymore began to disturb pain in loin, temperature to 38 oC, decline of appetite, loss of mass, general weakness At palpation of stomach there is its increase in the area of right kidney.

Question:

1. What disease is it needed to think about?
2. Methods of the special research.
3. Differential diagnostics.

Task № 3 (№ 382).

A patient 56 years appealed to the urologist with complaints about frequent urination and admixtures of blood in urine. Uanalysis: erythrocytosis cover all eyeshot, leucocytes single. Blood test without features. Cystochromoscopy: appeared from both sides on 4th to the minute. In the area of bottom of urinary bladder is villiferous tumor by a size 3 x 2 cm on wide infiltration basis, at a biopsy is nipple cancer papillary.

Question:

Plan of treatment?

Task № 4 (№ 383)

Persons 48 years appealed to the doctor on an occasion dull aching pain in a right lumbar area, subfebrile temperatures in the evening, rapid fatigueability. At the inspection of patient in urine protein are found 0,24%, red corpuscles fresh and changed cover all eyeshot. The lower pole of the rounded education palpation in the right overhead region of stomach. Blood test: L- $6,8 \times 10^9$, E – $2,0 \times 10^{12}$, RSE 25 мм/год.

Question:

1. About the disease of what organ does it follow to think above all things?
2. What additional researches can help in diagnostics?
3. What diseases need to be differentiated.

Task № 5 (№ 384).

A patient 50 years is inspected by an urologist on an occasion hematuria and dull pain in a lumbar area. A diagnosis is set: kidney right with destruction of its overhead to the pole. Heart and lung without features.

Question:

What plan of treatment of patient?

Task № 6 (№ 385).

A patient 60 years complaint about pain in a left lumbar area. Inspected by an urologist, at palpation the discovered tumour is in the left half of stomach, the overhead pole of which palpeble subcostal. Uranalysis: plenty of fresh and ruin erythrocytes. During the leadthrough of initial left-side pyelography a kidney left is diagnosed. To the patient the offered operation is nephrectomy.

Question:

1. What research does it follow necessarily to conduct before operation?
2. Where metastases kidney cancer above all things?

Task № 7 (№ 387).

The sick 59 years appealed to the internist on an occasion the subfebrile temperature of body in the evening (to 38 °C), general weakness pain in a lumbar area. Blood test:

L – 8,1x10⁹/l, HB-87g/l E – 2,7x10¹²/l, IIIOE - 28 mm/cl. Uranalysis: albumen - 28%, red corpuscles cover all eyeshot. Kidneys not palpation.

Question:

1. Can the found out symptoms to be the signs of kidney cancer?
2. What does it follow to conduct research, to confirm or eliminate the presence of kidney cancer at sick one?

Task № 8 (№ 388).

At a child 5 years a mother noticed a tumor in the left half of stomach. In the uranalysis are red corpuscles in great numbers. A stomach is some megascopic, asymmetric due to the heave of tumor, sizes its 8x6 cm. A tumor occupies left subcostal. Excretions are ordinary, dysuric disorders are not present.

Question:

1. Previous diagnosis.
2. What necessary additional researches?

Task № 9 (№ 389).

At a child 8 years find out a tumor in the left half of stomach, exhaustion, anaemia. At a pyelography found out a kidney cancer left (tumor of Wilms).

Question:

Plan of treatment?

Task № 10 (№ 390).

A patient 68 years suffers from pain in a left lumbar area, hematuria, ferverescences for the last 2 months. At the inspection the cancer of left kidney of the IV stage is diagnosed. A tumor is immobile, found out a metastasis in a left humeral bone.

Question:

Plan of treatment?

Standards of answers to the situational tasks.

Standards of answers №1.

1. It is needed to think about the cancer of urinary bladder.
2. For confirmation of diagnosis it is necessary to conduct the uranalysis general, ultrasound, cystoscopy with a biopsy, retrograde cystography and also arteriography, for the exposure of metastases in retroperitoneal and lumbar lymphonoduss – echography or computer tomography.

Standards of answers №2.

1. It is needed to think about the presence of malignant tumor in to the right kidney.
2. For clarification of diagnosis necessary: research of urine with the purpose of exposure of tumours mews, uranalysis, ultrasound, cystoscopy, roentgenologic research of kidney, and also excretory urography, retrograde pyelography aortography, and kidney angiography, lymphography, radioisotope research.
3. Differential diagnostics is conducted with hydronephrosis, pyelonephrosis, abscess, solitar cyst, polycystic and tuberculosis of kidney.

Standards of answers №3.

Resection of urinary bladder with a tumor within the limits of healthy fabrics. Postoperative radial therapy and chemotherapy (in that number intravesical).

Standards of answers №4.

1. Disease of kidney.
2. Excretory pyelography, cystoscopy, retrograde pyelography. Uranalysis on BK, isotopic research of kidneys, ultrasonic diagnostics.
3. Cancer of kidney, tuberculosis of kidney, urolithiasis.

Standards of answers №5.

Nephrectomy with the following of radiotherapy offer of remote kidney.

Standards of answers №6.

1. To define the function of the second kidney.
2. Lung, bones, liver, in lymphonoduss on motion of aorta.

Standards of answers №7.

1. Yes, can.
2. Pyelography excretory, retrograde, retropneumoperitoneum, angiography, ultrasonic scan-out.

Standards of answers №8.

1. Left tumor of Wilms.
2. A ultrasound inspection, a excretory urography; in doubtful cases is kidney angiography , retrograde pyelography CT or MRI pochar.

Standards of answers №9.

Nephrectomy with the next irradiation of bed of remote kidney. At presence of metastases is chemotherapy.

Standards of answers №10.

Cancer of kidney little sensible to radial and chemotherapy. However, in this case with a palliative purpose possibly the use of chemotherapy, symptomatic therapy.

IV. Materials for audience independent work.

4.1. List of educational practical tasks which must be executed on practical employment.

- To be able of review and palpation of peripheral lymphonoduss.
- To be able of palpation of kidney.
- To be able of bimanual palpation of urinary bladder.
- To be able of puncture biopsy of peripheral lymphonoduss.
- To familiarize with the method of ultrasonic research of kidney and urinary bladder.
- To familiarize with the method of puncture biopsy of kidney under the control ultrasound or CT.
- To familiarize with the method of biopsy of tumor of urinary bladder by operating cystoscope.
- To familiarize with the method of roentgenologic and instrumental research of organs of the urinary system.
- To familiarize with the method of radioisotope diagnostics of tumors of organs of the urinary system and their metastases.
- To work out plans of inspection and treatment of patients with the cancer of different organs of the urinary system.

4.2. Professional algorithms in relation to the capture by skills and abilities.

1. To conduct palpation of peripheral lymphatic nodes and to estimate their state.

Note: to pay attention on original appearance patient, color of skin, layer of fatty hypoderm.

2. To conduct comparative palpation of kidney at patients in different positions.

Note: to pay attention sizes formation, their mobile, closeness, presence or absence of unevenness.

3. To conduct bimanual palpation of urinary bladder.

Note: to pay attention to the presence or absence of infiltration pair of rectal and round for tissue.

4. To conduct cure of patients with the cancer of kidney and urinary bladder.

Note: to pay attention to the common state of patient; presence or absence of dusuria, hematuria; to keep lines of lindnistics and deontology; to work out a plan of clinical-laboratory and instrumental research of patient; to work out a plan of treatment.

V. Materials after audience independent work.

Subject: Study of indexes of morbidity and death rate on the cancer of organs of the urinary system in the Poltava region.

Subject: Study of possible dependence of increase of level of morbidity on the cancer of organs of the urinary system in the Poltava region.

Methodical development is revised and ratified on meeting of department protocol № 22 from 10.06.2009 years.

M.D., prof.

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