ODESSA NATIONAL MEDICAL UNIVERSITY
Departmen of Urology and Nephrology

METODSCAL WORKING of practical training for teachers
Topic 12. Tumors of the urinary and male reproductive systems.

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Topic 12. Tumors of the urinary and male reproductive systems - 2h

PURPOSAL TASKS OF THE LESSON

General purposes: to teach the students of symptomatology of carcinoma of the kidney and urinary bladder, principles of a diagnostics and cure of these diseases; to form the sense of oncological watchfulness of the students.

A student must know:

1. Division of malignant neaplasms of a kidney on tumors of the renal parenchyma and tumors of the renal pelvis.
2. Clinical symptomatology of adenocarcinoma of a kidney:
   a) real symptoms;
   b) extrarenal symptoms.
3. The principle based differences in a diagnostics and cure of carcinoma of the renal pelvis and carcinoma of the renal parenchyma.
4. Clinical manifestations of tumors of the urinary bladder.
5. Peculiarities of the instrumental roetgenological diagnostics of tumors of the urinary bladder.
6. Types of surgical operations in the presence of tumors of the urinary bladder.
7. Principles of the combined therapy of neoplasms of the urinary bladder.
8. Measures, directed on early exposure of recidivation of the disease.

A student must be able to:

1. Palpate and percuss a tumor of the kidney.
2. Find the signs, which are typical for tumor of the kidney, on urogrammes and angiograms.
3. Determine the varicocele.
4. Carry out bimanual palpation of tumors of the urinary bladder.
5. Find the symptoms, which are typical for tumor of the urinary bladder, on cystogrammes and urograms (to distinguish the defect of contour, defect of filling, dilatation of the superior urinary ducts).
6. Determine the cystoscopic picture of tumors on the phantoms.

For reaching of this purpose it is necessary to remember from the course of human anatomy - the kidney: topography, roentgenoanatomy, calyces, pelvis, ureter, urinary bladder: flocalization, structure of the wall; histology - structure of the renal calyces, pelvis, ureter, urinary bladder; pathological anatomy - tumors of a kidney, renal pelvis, urinary bladder; topographical anatomy and operative surgery - topography of the inferior cava vein, groups of the lymphatic nodes of retroperitoneal, space, urinary bladder: attitude
to the peritoneum, venous and lymphatic outflow; professional diseases - malignant

neoplasms of urinary ducts as a result of contact with compositions of the aromatic set:
amino- and nitrocompouns of the benzene, betanaphthilamine,
alphanaphthilarnme.
benzidine and oth.; children diseases -tumor of kidney of children (wilms tumor): clinical
symptomatology, diagnostics, treatment.

Connections with other disciplines.

One of the spreaded symptoms of tumor of the renal parenchyma is a long hyperthermia. The patients with vague genesis of temperature increase, as a rule, are present on investigation and treatment of therapeutists. Hyperpyrexia is often the sole symptom of tumor of the kidney. If the cause of long fever is unknown, such patients should be directed to the urologist.

It should be understood about possibility of the diagnostic mistake in the presence of increased content of blood erythrocytes of the patients. Such patients are frequently on treatment in hematological departments with such diagnosis as vaquez disease or true erythremia. Besides the erythrocytosis, the increase of liver and spleen is observed of such patients as a rule. It should be remembered, that tumor of the kidney is appeared by erythrocytosis in 3 % and to investigate carefully the palpated formation, which must be the renal adenocarcinoma. The thympanitis will be determined by percussion over the formation localized in the retroperitoneal space, as the large intestine is situated from the front of this formation. If this formation is situated in abdominal cavity, the dullness of percutory sound will be registered. It should be carried out the roentgenourologocal investigation in dubious cases. The persistent cough is the frequent symptom of patients in the presence of tumor, situated in a region of the superior pole of kidney and inferior fastening of a diaphragm. Pathologocal changes cannot be exposed by rantgcnoscopy of the tlioral. The reactive pleuritis and fluid in the pleural cavity can be observed of such patients. Internists should be understood about such genesis of cough and exudative pleuritis. Arteral hypertension can be appearance of tumor of the kidney of 25 % patients. This symptom must be the reason for carrying out of urological investigation. The phenomena of phlebostasis and ademata of the inferior extremities are possible in the presence of tumorous thrombosis of the inferior cava vein. Such patients can be appealed to internists and even frequently received treatment in therapeutic clinics apropos of supposed cardiac insufficiency.

High proteinuria, sometimes with microhematuria and cylindruria are often the reason for diagnose of chronical nephritis or renal amyloidosis. It is necessary to take into account, that the amyloidosis of internal organs can be met in the presence of tumor of the kidneys. A sense of weight and increase of one of scrotal halfs is a reason for visitation to surgeons in connection with supposition of the inguinal-scrotal hernia. These phenomrna can be stipulated by varicocele, which is a symptom of tumor of the kidney of 3 % patients. Presence of coiled, dilated, vermicular, especially increased in a vertical posture, must be a reason for the urological investigation.

Palpated through the anterior abdominal wall tumor is the object of a conference of specialist doctors in composition of the surgeon and urologist, and gynecologist of women. The necessity in rantgenourological methods of investigation is appeared quite often for excluding of tumor of the kidney or retroperitoneal space. Sometimes the women cannot to differentiate the bleeding from the genital organs and hematuria. Vaginal investigation and cystoscopy allows to ascertain the source of bleeding.

Pains in the inferior part of abdomen, dysuria, can be observed both by uterine fibroid tumor and by lesion of the urinary bladder. The necessity in joint elimination of sick women by gynecologist and urologist is appeared.

Basic theses of the lesson.

It is necessary to distinguish the tumors of renal parenchyma and tumors of renal pelvis. Adenocarcinoma (hypernephroid carcinoma) is the most often among the tumors of parenchyma, and the papillary cancer is the most often among the tumors of renal pelvis. Tumors of the renal parenchyma met in 10 times oftener of tumors of the renal pelvis. The classical triad of real symptoms is typical for the adenocarcinoma of kidney: hematuria, palpated formation in the hypochondrium, the pains in a lumbar region and (or) hypochondrium on a side of lesion. Extrarenal symptoms becomes more important in the last years: increase of temperature, acterial hypertension, erythrocytosis, varicocele, amyloidosis of kidneys, hypercalcemia, sharply hastened ESR, anemia.

Basic methods of diagnostics of tumors of the renal parenchyma are the ultra-sound echoscanning and vascular investigation of kidneys. Diagnosis is put on the grounds of data of excretory urography, retrograde pyelography, canning of kidneys in institutions, which has not the apparatus for carrying out of named above methods. Metastatic spreading of adenocarcinoma of kidney is carried out by hematogenous and lymphogenous way. The basic method of renal adenocarcinoma cure is operation (nephrectomy). Two conditions must be implemented by carrying out of an operation: bandaging of the renal vessels till the mobilization of a kidney and removal of a kidney by common block with the paranephral cellular tissue and adjoined fascias. The thoracoabdominal and transperitoneal accesses are more optimum. The prognosis by adenocarcinoma of kidney is always dubious in connection with oncological character of metastases appearance after nephrectomy. 3-years surviving is by an information of number of authors from 27,7 till 62 %, 5-years - is from 17 till 43,3 %, 10-years - is from 11,1 % till 29,3 %.

The following symptoms are typical for the papillary cancer of the renal pelvis: hematuria, pain in a lumbar region on a side of lesion, rarely palpated formation (by appearance of hematohydronephrosis), shevassue's symptom. Basic methods of diagnostics are the excretory urography and retrograde pyelography. Cytological investigation of urinary sediment is also used in a diagnostics. Metastatic spreading is carried out by descending way more often. Metastases appears more often in the urinary bladder. The leading method of treatment is operation. Descending way of metastatic spreading determine the character of operation - removal of a kidney, ureter and part of urinary bladder on a side of lesion (nephrureterectomy with resection of urinary bladder). Operation is carried out from 2 accesses nephrectomy from lumbotomical or extrapleural extraperitoneal intercostal

(in X or XI intercostal interval) incisions; ureterectomy with resection of urinary bladder from the compulsory ileoinguinal access. Prognosis is dubious in connection with oncological character of disease. The control cystoscopies are indicated every 4 months during the first 3 year after operation in connection with great possibility of metastases appearance. There are nonmalignant and malignant tumors of the urinary bladder. Such division is stipulated by the histological structure. Triad of the following symptoms is typical: hematuria, pains in the inferior part of abdomen, dysuria. Basic diagnostic method, permiting to see the tumor in urinary bladder and determine its spreading, is the cystoscopy. It is also determine s tactics of cure and volume of operation, permit to carry out the biopsy of tissue for histological investigation. The descending and ascending cystography is also used in diagnostics in various modifications; pelvic arteriography. investigation of urine on atypical cells. Metastatic spreading of tumors of the urinary bladder is carried out by hematogenous and lymphogenous ways. Metastases are appeared more often in the lungs, bones, liver.

Treatment of tumors of the urinary bladder is combined: operative, radial and chemiotherapeutic. Types of operations are: resection of the urinary bladder with ureterocystoneostomy or without it, cystestomy with transplantation of ureter in the skin sigmoid or isolated segment of intestine. Indications and method of carrying out of radial therapy and chemiotherapy are determined individually depending on the stage and spreading of the process. A prognosis is dubious. The control cystoscopies are necessary to carry out every three months during the first year after operation, 4 months - second and third years.

THE CARD OF CURAT1ON OF A PATIENT BY SUSPICION ON THE RENAL
BLASTOMA

It is necessary to elucidate by gathering of anamnesis: : .

1. Localization and character of the pains.
2. Presence of hematuria both at present moment and in anamnesis, character of hematuria (initial, total, terminal), presence or absence of the clots; form of the clots - vermicular, circular, formless. Succession of appearance of the pains and hematuria. Duration and intensiveness of hematuria. Cystoscopy and its results.
3. Presence of tumor - like formation in one or another part of abdomen by palpation. .
4. Does the increase of temperature observe? '
5. Presence of arterial hypertension (from what time)
6. Presence of pains in the right hypochondrium, pains in abdomen with vague localization.. .
7. What appetite the patient has? Presence of aversion to the food.
8. What capacity for work of the patient? Presence of weakness, quick fatiguability.
9. Presence of edemata on the legs, face. How it's explained by physicians?
10. Pains, sense of weight in the scrotum. .....
11. What changes were by the laboratory analyses of blood and urine?

12. Time of appearance of the first symptoms, history of disease development.
By estimation of objective data: . .....
1. Pay attention on the skin integuments (paleness or icteric colour).
2. Determine the seriousness of state of patient (pulse rate, quantity of respirations, activity).
3. Pay attention on the symmetry of abdomen, presence of dilated veins on the anterior abdominal wall.
4. Pay the special attention on a region of hypochondriums by palapation of the abdomen, carry out both the superficial and profound palpation. Carry out the palpation of kidneys in posture on the back, side and standing.
5. To determine the ballotement symptom, limits of tumor, its consistence, painfulness, mobility if the formation is palpated.
6. Pay attention on presence or absence of dilated veins in the scrotum or in a region of genital labia (varicorele) by examination of the external genital organs.
7. Determine the presence or absence of edemata and dilated veins on the legs.
8. Determine the state of axillary, subclavian, inguinal lymphatic vessels.
By estimation of reontgenological data:
1. Determine the shades of lumbar muscles, shades of kidneys, their situation and sizes on roentgenogram in field of vesion. Presence of calcifications in projection of kidneys, parts of osteolysis or osteosclerosis in a spine, ribs, pelvic bones.
2. On excretory roentgenograms - opportuneness of the contrast substation excretion by both kidneys, pay attention on presence of deformation of the calycle-pelvic systems of both kidneys. Determine the limits of kidneys, ureters.
3. To find on visual aortogram the renal arteries in a vascular phase, places of their movings off, diameter. Indicate the presence or absence of additional arteries. Register the presence or absence of parts with surplus vascularization or vesselsless parts. Determine the presence or absence of pathological vessels.
4. To find a contour of kidneys, determine their sizes and posture, intensity and evenness of nephrographic effect on the visual aortogramme in the nephrographic effect on the visual aortogramme in the nephrographic phase.
5. To find a beak of the probe, define the diameter of a renal artery, course of the basic trunk and every branch on the selective renal arteriogram. To determine the presence or absence ofpathological vessels or collateral branches and places of their localization.
6. To find a beak of the probe, determine the place of renal vein flowing in the inferior cava vein on the selective renal venogram. Pay attention on a diameter of the basic trunk and flowed in it branches.
7. To determine the same moments as in 4 point on the selective renal arteriogram.
8. To find a beak of the probe on the lower cavogram, define the contours of inferior cava vein, presence of dislocations. Pay attention on evenness of filling of the inferior cava vein by contrast substance (presence of filling defects - "tumorous thrombe").
9. To define the presence or absence of circular compact shades (mctastases).
10. Determine the presence or absence of circular regions, hardenings on roentgenogranimes

of bones of the pelvis, skull.

To diagnose on the grounds of received information. To draw up a diagnosis by international nomenclature with usage of symbols by implementation of a tumor. To determine the character of treatment.

THE CARD OF CURATION OF A PATIENT BY SUSPICION ON THE URINARY BLADDER BLASTOMA

It is necessary to elucidate by gathering of anamnesis:

1. Localization and character of the pains, connection of them with urination act. : Character of urination (frequency, painfulness, retention, interruption or splashing of spurt of urine).
2. Presence of a blood in urine. To elucidate the character of hematuria (initial, total, terminal), with the clots or without them, character of the clots (vermicular, circular or formless). To elucidate the intensity of hematuria and frequency of its appearance.
3. To elucidate the presence or absence of pains in a lumbar region. In the presence of such to elucidate the side of pains appearance, their character and bond with hematuria.
4. To get to know the profession of a patient. To elucidate about the professional harmfulnesses on his work.
5. Time of the first symptoms appearance, history of disease development.

By estimation of the objective data:

1. Determine the state of skin integuments.
2. Behaviour of a patient, appearance of disease by the look.
3. To estimate the seriousness of patient state (activity, pulse rate, number of breathings).
4. To define the presence or absence of tumor like formation over the pubis, presence of scars in inferior parts of abdomen by examination of abdomen.
5. To palpate the urinary bladder over the pubis; presence of painfulness by palpation of inferior abdominal parts or in a region of kidneys.
6. To percuss the urinary bladder over the pubis.
7. To carry out the bimanual palpation of region of a urinary bladder, if the patient doesn'tobese.

To carry out the palpation with the help of a left hand, simultaneously movingthe anterior wall of rectum frontward.

Bv estimation of roentgenological data:

1. To find the shades of lumbar muscles, kidneys on visual roentgenogram of urinary system.
2. To define the opportuneness of contrast substation excretion by the kidneys, find the ureters on excretory urograms. Presence of dilation of the superior urinary ducts on one

- or another side. Presence of contour defects, fix their localization in the presence of them. Presence of filling defects.

3. Pay attention on the same moments as in 2 point on the retrograde cystograms.

4. To find the same contours of urinary bladder (according to the various degree of filling) on polycystograms.
5. Determine the regions of compactness (metastases) on roentgenograms of the cranial and pelvic bones.
6. Information about data of cystoscopy and results of the endovesical biopsy receives from the disease history.
7. To diagnose in accordance with received information. To draw out the diagnosis according to international classification with usage of symbols by manifestation of the tumor.

To determine the tactics of cure taking into account the presented information:

1. Weed in radial therapy. If it is necessary, when it must be carried out (till operation, after operation and till, and after operation)?
2. To determine the character of proposed operation (resection of the urinary bladder, resection of the urinary bladder with urethrocystoneostomy, cystectomy).
3. To determine a character of recommendations during 1 year after operation.

The approximate plan of diagnostic search of patient, admitted in hospital with a total painless hematuria.

1. Cystoscopy is carried out for establishment of a source of bleeding. By this to examine the urinary bladder and mouths of ureters carefully.

a) If the tumor of urinary bladder is exposed, a diagnosis become clear, and medical tactics are determined.

b) By exposure of bleeding from mouth of one of ureters, the following diagnostic searches are directed on elucidation of hematuria cause.

2. First of all the carcinoma of the renal parenchyma should be excluded. The ultra-sound investigation of kidneys is carried out with this purpose:

a) If the volume formation is exposed in the kidney, from mouth of which ureter the blood urine excreted, the following search is directed on the specification of vascular architectonics of kidney of indicated formation.

b) It is necessary to exclude carcinoma of the renal pelvis, if the volume formations aren't exposed in the kidney.

3.

a) The complex vascular investigation, included the visual aortography, selective renal arteriography, selective renal venography and inferior cavography, is carried out by exposure of the volume formation. The structure of formation is specified.

b) The excretory urography is carried out in a case of absence of pathological changes by ultra-sound investigation, and the retrograde pyclography - in the case of bad picture of urinary ducts. The repeated specificated USJ can promote to the specification of a diagnosis. The complex vascular investigation is carried out by
absence of pathological changes on urograms and pyclograme for excluding of
vasorenal conflicts, which can be the cause of bleeding.

4. Roentgenogramm.es of the lungs, pelvic bones, skull are carried out in the case of
exposure of the renal parenchyma or renal pelvis carcinoma for excluding of the

distant
metastases. The computer tomography is carried out for specification of degree of the
process spreading in lymphatic nodes. The isotopic methods of investigation promotes to
specification of functional state of the collateral kidney.

SUTUATIONAL PROBLEMS

-An urologist on duty received an infomftion at 02.30 a.m. after operation from the receiving-room, that the patient is admitted with painless total hematuria.

What tactics of uroloeist. urgentness of diagnostics and medical procedures must be?

- The patient, 52 years old, has a palpated tumor - like balloted formation in the right
hypochondrium with a size 10x8 cm, with compact hilly surface. The tympanitis is present
by percussion over the formation. Data of the excretory urography cann't allow to exclude
the disease of a right kidney.

What methods of investigation permits to confirm or exclude the diagnosis?

- The patient, 43 years old, has prolonged subfebril temperature, absence of apetite,
persistent uncured dry cough; He is sick during 1 year; became think on 15 kg during this
time. He is investigated of various specialists many times. Pathological changes are absent
by roentgenological investigations (including the tomography). Increase of ESR (from 30 at
the beginning of disease till 60 mm/hour now) is registered - 68 g/1 of hemoglobin, 3200000
of erythrocytes.

What disease should be suspected? What should be done for diagnose?

- The patient, 62 years old, has the complaints on periodical appearance of a blood in urine with formless clots. He is sick during 6 months. The pains by frequent urination are observed during 3 last months. Patient is pale, of decrease nourishment kidneys doesn't palpated, Pasternatsky's symptom is negative from the both sides. Moderate painfulness is present by palpation over the pubis. The spurt of urine doesn't changed. Prostate has the elastic consistence, sizes like 3.5 x 4 cm by rectal digital investigation. What preliminary diagnosis and methods of cure can you propose?

THE CONTROL QUESTIONS WITH INDICATIONS OF PAGES OF THE BOOK, WHERE THE ANSWERS CAN BE FOUND

1.Classification of the renal tumors (p. 342).
2.Metastatic spreading of parenchymatous and pelvic tumors of the kidneys (p. 343).
3.Renal and extrarenal symptoms of the renal carcinoma (p. 344-346).
4.Diagnostics of the renal tumors (p. 347-356).
5.Differential diagnostics of the renal tumors (p. 356-357).
6.Cure of the renal tumors (p. 357-360).
7.Prognosis of patient with adenocarcinoma of the kidney (p. 360).
8.Symptomatology and diagnostics of the renal pelvis tumors (p. 365-366).
9. Cure of the renal pelvis tumors (p. 367-368).
10. Classification of the urinary bladder tumors (p. 377-378).
11. Symptomatology and diagnostics of the urinary bladder tumors (p. 378-384).
12. Cure and prognosis by the urinary bladder tumor (p. 385-390).
TASKS FOR SELF-CONTROL OF STUDENTS' KNOWLEDGE
To find in methodical working out or in textbook the necessary answers:
Classical triad of symptoms of the renal tumor_____hematuria. Palpated formation in the hypochondrium.
Extrarenal symptoms of the renal tumor:
_____Arterial hypertonia._____Amyloidosis. Varicocele.
Symptoms of tumor of the urinary bladder:
Hematuria_____Pains in the lower part of abdomen.
Methods of diagnostics of tumors of the renal parenchyma
Excretory urography
. Selective renal
Visual aortography____Ultra-sound methods of investigation__ arteriography.
Methods of diagnostics of tumors of the renal pelvis:
_Retrograde pyclography._____Investigation of the urinary
_Shevassue's symptom.
sediment on the atypical cells._

Educational object_
THE GRAPHS OF LOGICAL STRUCTURE _____1. Tumors of the kidney and renal pelvis
II procedure
III procedure
Educational elements of I procedure

- Classification	- Tumors of the parenchyma - Tumors of the renal pelvis	- Wonmalignant - Malignant - Secondary (metastatic) - Wonmalignant - Malignant - Regionary metastases
- Metastatic spreading and diffusion	- Diffusion and metastatic spreading of tumors of the parenchyma	- In the lungs - Osseous metastases - Diffusion in the inferior cava vein

	- Worsening of the general state - Increase of temperature - Anemia	
General (exlrarenal) symptoms	- Polycytemia - Increase of the ESR - Increase of AP - Hematuria - Pain in the renal region	Painless total Suddenness of appearance and stopping
- Renal (local) symptoms	- Feeling - Formation - Varicorele - Atypical cells in a urine Importance of a visual photography, tomography and pneumoperitoneum	- Character of the blood clots Succession of hematuria and acute pain in a renal region appearance Deformation and dislocation of the calycles or pelvis
Roentgenoradio-diagnostics	- Excretory urography - Danger of the retrograde pyelography - Renal angiography - Venocavography	- Amputation of the calycles Defect of filling Dislocation of the ureter "Lake","puddle" symptom
- Operative treatment	- Wephroureterectomy with resection of urinary bladder in a region of mouth - Resection of a kidney	
- Conservative treatment	- Radial therapy - Chemiotherapy - Hormonotherapy	

Educational object_
THE GRAPHS OF LOGICAL STRUCTURE _____1. Tumors of the urinary bladder
II procedure
III procedure
Educational elements of I procedure

- Etiopathogenesis	- Chemical factors - Importance of urine stasis in localization of tumor - Viral theory	Typical • papillary fibroepithelioma
- Classification	- Epithelial tumors - Wonepithelial tumors	- A typical papillary fibroepithelioma - Papillary carcinoma

		- Solid carcinoma
- Metastatic spreading	Lesion of regionary lymphatic nodes - Distant metastases - Hematuria - Disuria	- Total hematuria - Terminal hematuria
- Symptomatology	- Pain in a region of the urinary bladder	- Tamponade of the urinary bladder by the blood clots

ADENOMA AND CANCER OF PROSTATE GLANDA

MAIN AIMS OF THE LESSON

General aims: since adenoma of prostate gland is one of the most common diseases of older males and among the malignant tumours of prostate most common is cancer, physician of any speciality may come across such diseases. This is why it is important to teach students the symptomatology and diagnostics of adenoma and cancer of prostate.

Student should know:

1. Clinical appearance of adenoma and cancer of prostate.
2. Identify stages of carcinoma.
3. Diagnostics of adenoma.
4. Complications of adenoma and cancer of prostate.
5. Treatment of adenoma depending upon the stage of the disease.
6. Assistance during acute urine retention.
7. Diagnosis (biopsy of prostate) and treatment of prostate cancer (extrogenotherapy, castration).

Student should be able to:

1. Palpate and do percussion examination of urinary bladder.
2. Conduct digital rectal investigation of prostate gland.
3. Conduct catherization of urinary bladder.
4. Interpret on cystogramms adenoma of prostate.
5. Locate metastasis of prostate cancer in bones in roentgenogramma.

In order to achieve the above goals it is important to recollect from the course of normal anatomy – prostate gland, seminal vesicle; normal physiology – functional specificity of urinary bladder; pathological physiology – pathogenesis of changes in kidneys during urine outflow restriction; pathological anatomy – tumours of prostate gland (cancer of prostate and adenoma of preurethral glands).

Connection to other disciplines.

In the II and III stages of adenoma of prostate glands, several general symptoms are noted. The main cause of which is the uremic intoxication, which develops due to the renal failure. Such patients as a rule have substantial azotemia, which may sometimes reach high values. Patients are pale and complain of polyuria. Often they have edema of lower extremities. Often disturbances of GIT are also noted. The so called uric dyspepsia arises. Sometimes it is so acute that may overshadow urinary symptoms. Loss of appetite strong thirst, constipation or diarrhoe, nausea and vomitting may be noted. Anemia develops accompanied by disturbances of cardiovascular system and dilation of heart chambers, edema, increased BP and difficulty in breathing. With the above symptoms patient is often admitted to the general medicine ward, this is why the knowledge of this disease is vital for the future interns.

In patients of the therapeutics wards, suffering from infarction of myocardium, stomach ulcers, etc., receiving atropine or similar preparations, acute urine retention may develop.

In older aged persons after different surgical operations (appendectomy, section of hernia, resection of stomach, cholecystectomy and others), urine retention caused by the adenoma of prostate my be noted. Catherization of the bladder may be required for its evacuation.

The extended urinary bladder in the II stage of the adenoma of prostate gland due to the presence of a large amount of residual urine may be confused with inter fold cyst or cyst of the uresen terium. Overextended urinary bladder due to the presence of a large volume of residual urine has very thin walls and may easily be ruptured by small traumas of the abdomen the intra or extra abdominaly.

Except for the above prostate cancer as a rule has metastasis in the bones system and pathological bone fractures may be noted. This is why it is important for traumatologists to know.

Disturbances in micturition may be caused not only by adenoma of prostate gland, but also in neurogenic hypotony or atony of urinary bladder, which may be caused by disease of central nervous system. In such patients due to the decreased sensivity of urinary bladder, urges to micturate are often rare and they approach physicians in a condition of severe atony. For hypo and atony of urinary bladder, absence of obstruction and presence of “tower” shaped bladder is characteristic in cystogramms. In the cancer of prostate gland with metastases in the bones of pelvis and in lower sections of the vertebral column, the clinical picture of lumbo-sacral radiculitis develops. Such patients often receive physiotherapy in the lumbo-sacral region, which is absolutely contraindicated. All future neuropathologists should remember about this.

Disturbance in urine outflow from urinary bladder and upper urinary tract, which is present in adenoma of prostate gland, may lead to chronic pielonephritis (with an outcome of nephrosclerosis) and development of chronic renal failure.

Slowly under the influence of intoxication and dyspepsia the general condition of the patient becomes more severe. They “loose weight, skin covers attain an earthen shade, the so called urea cachexy” develops, during which malignant neoplasm may be suspected.

As is visible from above mentioned the knowledge of clinical manifestations of prostate glands is important not only for specialists urologists, but also for doctors of other specialities.

MAIN POSITIONS OF THE LESSON

Adenoma of prostate gland is a benign tumour, more common in older men. Main role in the genesis of this disease is played by the hormonal factors. Decrease in the activity of the testes may be accompanied by increased production of gonadotropic hormones from the frontal lobe of hypophysics. Activity of this hormone leads to thidaning of paraureteral glands and formation of adenoma.

During histological investigations adenoma is differentiated into grandular adenoma, fibroadenoma and nusced adenoma.

This disease is divided into three stages based on the symptomatics and clinical outcome.

I. Compensation;
II. Subcompensation; the "chief manifestation of this stage is the symptom of residual urine";
III. Complete decompensation of the urinary bladder and prolonged renal failure. It is characterized by paradoxical ishuria.

Complications of adenoma of the prostate gland:

1. Acute urine retention.
2. Hematuria.
3. Stones of urinary bladder.
4. Inflammatory diseases (urethritis, cystitis, prostatitis, epicledimitis, epidydemoorchitis, acute and chronic pielonephritis).

Diagnostics of the adenoma of prostate gland:

1. Results of examination, percussion and palpation, specially rectal digital examination. During which the prostate gland is increased in size, of smooth surface, of dense elastic consistency.
2. Instrumental methods of investigation:

a) catheterization of urinary bladder
b) cystoscopy

3. Roentgenological, radioisotope and echographic methods of diagnostics, uroflowmetry.

Differential diagnosis of adenoma of prostate gland should be conducted with the following diseases: cancer of prostate gland stricture of urinary tract, sclerosis of the bladder neck, neurogenic hypotony and atony of urinary bladder.

Treatment of adenoma of prostate gland.

The main treatment is surgical, which could be radical or palliative. Conservative therapy, preparations of gonadic hormones – mainly male hormones. Radical operation involves the extraction of adenoma through a perineal, retropubical or more often intravesicular access. Epicystomy and transuretheral electroresection are the palliative methods of treatment.

Cancer of prostate gland.

Symptomatic and clinical manifestations of this disease is mainly associated with disturbance in urine passage: frequent and difficult micturition, presence of residual urine. Pain in the perineal and lumbasacral regions. In later stages hematuria and acute retention may also be noted. In case of pressure on the intra mural or near vesicular

sections of the ureter, symptoms associated with upper urinary tract can be noted: pain in the region of kidneys, signs of renal failure, possibly anuria.

Diagnostics of prostate cancer

1. Results of examination, percussion and palpation, special rectal digital examination.
2. Blood serum investigation of acidic phosphatase.
3. Roentgenological, radioisotope and echographic methods of diagnosis, uroflowmetry.
4. Investigation of the prostate secretion for presence of atypical cells.

Treatment:

1. Operative and conservative. Radical operation – prostatectomy. Palliative operation epicystoscopy, transuretheral electroresection, castration and enucleation of testes.
2. Conservative treatment – estrogen hormones.

CURATION CARD OF THE PATIENT
adenoma of prostate glands.

While collecting anamnesis find out:

1. Frequency and duration of micturition – whether any difficulty in it.
2. Character of urine stream, whether nocturia?
3. Whether micturition is improved after walking or physical exercise?
4. Whether there is a feeling of incomplete evacuation of the urinary bladder after micturition or involuantry micturition?
5. Whether there is excessive thirst, dryness of mouth, decreased appetite, nausea, vomitting, indirect signs of renal failure?
6. Whether acute urine retention was noted in the anamnesis and what assistance received.
7. Whether noted hematuria which may be due to the presence of varicose of veins of bladder neck?
8. Whether any stones were passed without pain or colic attacks?
9. Whether any indications of complications: urethritis, cystitis, prostatitis, epididymitis, acute pielonephritis?

While assessing objective results:

1. Pay attention to the swelling of frontal abdominal wall in the supra pubic region, conditioned by the overfilling of urinary bladder or presence of residual urine.
2. Dry tongue, covered with a brownish film may indicate substantial intoxication, as a result of renal failure.
3. Urge to urinate during deep palpation of supra pubic region immediately after evacuation of bladder indicates the presence of residual urine.
4. Percussion of supra pubic region before and after micturition may help assess the presence of residual urine.
5. Of main importance is the digital rectal investigation, during which attention should be paid to the size, surface and consistency of prostate.

Instrumental and roentgenological methods of investigation.

1. Catherization of urinary bladder.

2. Cystoscopy: tubercular walls of the bladder, false diverticules, varicose of veins of bladder neck and positive symptom of "curtain".
3. In excretory urogramm – widening of ureters and pelvo-calyces system, positive symptom of "fisherman's hook".
4. In descending cystogramm, the bladder is lifted, a filling defect of the form of hill in the region of bladder neck.
5. Supplementary X-ray done after micturition may allow to determine the presence of residual urine, depending upon the degree of retention of contrast medium in bladder.
6. In the ascending cystogramm by Knaize-Schobert, not only the picture of adenoma is visible but also the presence of concurrent diseases of bladder (stone, tumour) could be determined.
7. Not so rarely, during cystography in parauretheral adenoma vesico-ureteral reflux could be noted.
8. Data of uroflowmetry.
9. Ultra sound investigation.

CURATION CARD OF THE PATIENT
with prostate cancer

While finding out complaints and anamnesis of diseases it's important to know:

1. Whether there is any disturbance in micturition (frequent, difficult, painful, etc.).
2. Whether the patient has a feeling of incomplete evacuation of urinary bladder?
3. Whether acute urine retention reported earlier?
4. Presence of hematuria in history?
5. Whether the patient is suffering from pain in the perineal region, anal region, lumbo-sacral region?
6. Whether suffered bone fractures lately?
7. Does the patient suffer from malaise, dryness, of mouth, thirst, loss of appetite, nausea, polyuria?
8. Whether noted any loss in weight?

Objective and roentgenological investigations.

1. Whether swelling is noted in the abdominal wall in the supra pubic region, caused by the presence of urine.
2. Dryness of tongue covered with brown film may indicate of intoxication due to renal failure.
3. Digital rectal investigation may be the chief investigation in recognizing this disease, attention should be paid to the sizes, surface, consistency of the prostate gland and the mobility of the rectal mucous membrane.
4. In the excretory urogramms disturbance of the urine passage along ureters may occur , sometimes may lead to complete occlusion of ureters.
5. In urethrocystogramms the base of the urinary bladder is assymetrically elevated, filling defects with uneven contours in the region of the neck of the urinary bladder.
6. In the genitogramms a filling defect and deformation of seminal vesicles.
7. In the roentgenogramms of the pelvis, osteoblastic or osteoclastic metastases are noted.
8. Radioisotope investigations allow to reveal cancer of prostate and metastases.
9. Results of echoscanning allow to confirm cancer of prostate gland.

10. Results of uroflowmetry may also be helpful.

TESTIS TUMORS

Testis tumors are encountered quite rare. According to different authors they constitute 0.5-3.0% of all malignant neoplasms. The prevalent age of patients with testis tumor is from 20 to 40 years old. Testis tumor quite often develops in children under 3. Irrespective of accessibility of the testes for examination 30-50% of patients who were revealed to have testis tumor had already had metastases.

The right testis is affected more frequently – 60% of cases. 1.5-2.0 percent of patients have bilateral tumors.

Testis tumors vary in the morphological structure. Of all neoplasms developing in the testis 95% are germinal tumors that have mainly heterogeneous structure and look like different combinations of three and more kinds of tumors (Fig.47, see colored supplementary sheet). The neoplasms developed from the stroma of the Hunter's gubernaculum constitute 3-4% of testis tumors, and 1% is composed of tumors of rare structures.

Up-to-date international classification of testis tumors

The classification is used only for germinal tumors of the testis. There should be histological confirmation of the diagnosis and division by histological types. Presence of the tumor is often determined by increased level of serum markers: α-fetoprotein (AFP), chorionic gonadotropin (CG), and lactatede hydrogenase (LDH). Determination of the disease stage is based on detection of anatomical spreading of the disease and estimation of the serum tumorous markers.

To detect the category N physical examination and X-ray methods of diagnosis are utilized; for M category – physical examination, X-ray methods and biochemical tests; for S category – serum tumorous markers.

The stages are subdivided on the basis of presence and degree of increased level of serum tumorous markers that are determined at once after orchiectomy. When their level is increased, it is necessary to make series study for its estimation after orchiectomy according to normal disintegration of AFP (half-life is 7 days) and

CG (half-life is 3 days). The classification of S category is based on presence of the lowest indices of CG and AFP determined after orchiectomy. The level of serum LDH (but not its half-life) is of prognostic value in treatment of patients with metastasis affection and is included into stage classification.

The regional lymph nodes include abdominal paraaortal (periaortal), preaortal, interoaorto-, peri-, para- vena cava inferior, retroaortal. The lymph nodes located along the testicular vein are considered to be regional. The affection diffusion does not influence determination of the category N. The intrapelvic and inguinal lymph nodes are considered regional after performing the operation in the inguinal area and on the scrotum.

Clinical classification TNM

T- primary tumor
Spreading of the primary tumor is classified after radical orchidectomy (see pT). When radical orchidectomy is not performed the symbol **Tx** is used.
N –regional lymph nodes
Nx - regional lymph nodes that cannot be estimated;
N0 – no metastases in regional lymph nodes;
N1- metastasis with the lymph node size of 2cm and smaller in its biggest measurement or multiple lymph nodes with the size not more than 2 cm;
N2 – metastasis with the size of conglomerate of lymph nodes over 2 cm but smaller than 5 cm in its biggest measurement or multiple lymph nodes with the size over 2 cm but smaller than 5 cm;
N3 – metastatic conglomerates with the size over 5 cm in its biggest measurement;
M – remote metastases;
Mx – remote metastases that cannot be estimated;
M0 – no remote metastases;
M1 – remote metastases;
M1a – lymphatic glands that do not belong to regional ones or pulmonary metastases;
M1b – remote metastases different from M1a.

Pathological – anatomical classification pTNM

pT – primary tumor
pTx – primary tumor that can’t be estimated (when radical orchidectomy is not performed the symbol Tx is used);
pT0 – no data that confirm presence of primary tumor (determined histologically as a cicatrix on the testis);
pTis – intratubular herminocellular neoplasia (carcinoma *in situ*);

pT1 – tumor is restricted by the testis and epididymis without vascular (lymphatic) invasion; there may be tumorous invasion of the protein membrane but not of the vagina;
pT2 - tumor is restricted by the testis and epididymis with vascular (lymphatic) invasion or spreads beyond the protein membrane and involves the vagina;
pT3 – tumor infiltrates the spermatic cord with vascular (lymphatic) invasion or without it;
pT4 – tumor grows into the scrotum with vascular (lymphatic) invasion or without it;
pN – regional lymph nodes;
pN - regional lymph nodes that cannot be estimated;
pN0 – no metastases in regional lymph nodes;
pN1 - metastasis with the lymph node size of 2cm and smaller in its biggest measurement and 5 or less positive lymph node sized of not more than 2cm in its biggest measurement;
pN2 – metastasis over 2 cm in size but smaller than 5 cm in its biggest measurement or over 5 positive lymph nodes sized not more than 5 cm, or confirmation of extranodal spreading of the tumor;
pM – remote metastases.
The category pM corresponds to the category M.
S – serum tumor markers
Sx – the study of serum markers is impossible or was not made;
S0 - serum markers within the range of normal values.

LDH CG mMO/ml AFP, ng/ml
S1>1.5 x N <5000 <1000
S2 1.5-10 x N 5000-50,0001000-10,000
S3 > 10 x N <50,000 <10,000
Note: N is an index of the upper bound of the norm in the study of LDH

Stage grouping

Stage 0 pTis N0 M0 S0, Sx
Stage I pT 1-4 N0M0 Sx
Stage IA pT1 N0 M0 S0
Stage IB pT2 N0M0 S0
PT3 N0M0 S0
PT4 N0M0 S0
Stage ISany pT/Tx N0M0 S 1-3
Stage II any pT/Tx N 1-3 M0 Sx
Stage IIA any pT/Tx N1M0 S0
any pT/Tx N1M0 S1
Stage IIB any pT/Tx N2M0 S0
any pT/Tx N2M0 S1
Stage IIC any pT/Tx N3M0 S0
any pT/Tx N3M0 S1

Stage III any pT/Tx any N M1, M1aSx
Stage IIIA any pT/Tx any N M1, M1a S0
any pT/Tx any N M1, M1a S1
Stage IIIB any pT/Tx T 1-3 M0 S2
any pT/Tx any N M1, M1a S2
Stage IIIC any pT/Tx N 1-3 M0 S3
any pT/Tx any N M1, M1a S3
any pT/Tx any N M1b any S

Like a prostate cancer this disease has a symptomless course in the initial stage therefore the physicians of medical institutions should examine the external genitals of all male patients referring to polyclinic for medical consultation. Any consolidation in the testis, unpleasant feeling or moderate tenderness, its enlargement is the cause for sending a patient to the urologist. It should be remembered that gynecomasty is observed in 5-50% of patients with testis tumor. Patients with cryptorchidism have a tumor and pains at the location of the testis. The patients who have undergone orchiopexy require dynamic follow-up for the removed testis as it is quite often affected by a tumor, mainly by seminoma.

The patients with extragonadal tumors of the testicular tissue belong to a separate group. There is still no unified thought as to the origin of these tumors. Some authors believe the cause of their formation to be the impairment in the embryonic development; others consider that it is presence of small tumors in the testicular parenchyma unrevealed during the examination and tumorous formations in the mediastinum testis and retroperitonium are their metastases. Extragonadal tumors are mostly located in the retroperitonium and mediastinum. The tumor can’t be revealed even during thorough postoperative examination. Histologically it resembles herminogenic tumors. The clinical manifestations of the disease depend on the size and localization of the neoplasm. The tumorous node located retroperitoneally is manifested by pain in the abdomen and lumbar region. As the tumor grows the pain becomes constant and the node can be grasped. When the tumorous node is located in the mediastinum, the patient feels pain and heavy sensation behind the breastbone, dyspnoea, cough and general weakness.

The secondary testis tumors are observed rarely. Tumors of any localization may give metastases in the testis but they are more frequently seen in patients with CB.

In practical oncological urology the tumors are divided into seminomas and nonseminomic formations, as there are principal differences in tactics of their treatment. Pathological and anatomical diagnosis of testis tumors is complex and very important. All doubts of the urologist and pathological anatomist should be in favour of nonseminomic tumors as wrong choice of treatment worsens considerably the remote results of treatment and disease outcome.

We should emphasize once more the importance of diagnostic value of tumorous markers (TM) the study of which can significantly extend the diagnostic abilities of the urologist. While studying TM we can make the diagnosis at the early stages of the disease, detect the metastases before their clinical manifestations, control efficacy of the given treatment and obtain more specific information about the histological structure of the tumor.

Diagnosis in accordance with tumorous markers:

- increased level of one or two TM (CG and AFP) before orchifuniculectomy (OFE) is evidence of presence of nonseminomic tumor;
- increased level of one of two TM (CG and AFP) after orchiectomy is evidence of III stage of the process;
- increased level of TM after lymphadenectomy (LAE) is evidence of the remote metastases;
- permanent increase of TM after OFE and /or LAE indicates the presence of residual tumor and requires further treatment;
- application of TM in the staging process reduces the percentage of mistakes and helps in choosing adequate treatment;

To diagnose testis tumors we suggest the following algorithm of examination:

- visual examination and palpation of the testis and all peripheral lymph nodes;
- US examination of the scrotum, retroperitoneal and inguinal lymph nodes and the liver;

- Study of the TM level (CG, AFP, LDH);
- X-ray examination of the chest organs (XECO).

To define more precisely the range of tumor diffusion CT and MR are the ideal method of the investigation that allows to assess the state of retroperitoneal lymph nodes with high precision.

Treatment of testis tumor must be combined and complex and it is given only in a specialized medical establishment – oncological clinic.

At the first stage of treatment orchifuniculectomy is performed (Fig.48) which is diagnostic in fact. Orchiectomy through the scrotum is impermissible as it is contrary to principles of oncological radicalism, it worsens significantly the disease outcome, stimulates metastases and results in reoperation – funiculectomy with wide excision of the postoperative cicatrix.

Orchifuniculectomy has got its own peculiarities. From the oncological point of view it should be called funiculoorchiectomy; this name is more precise.

The operation is performed regardless of histological structure of the tumor, its size and diffusion from the inguinal approach, in case of need involving the scrotum with obligatory incision of aponeurosis over the inguinal canal. The vascular clamp is applied to the spermatic cord near the inner outlet. The spermatic cord is mobilized only after this and the testis is delivered in the wound. Testis express-biopsy is made and in case of confirmation of the diagnosis of malignant tumor the spermatic cord is ligated at the level of the inner ring of the inguinal canal. The spermatic cord and testis are excised with all their membranes. In presence of adhesions to the scrotum skin, the scrotum skin is widely excised. The

inguinal canal anterior wall plasty is performed by Martunov or Kimbarovsky technique.

It is expedient to make diagnostic puncture of testis tumor for there is danger of its dissemination. Besides, puncture biopsy does not give complete overview of morphological peculiarities of the tumor and negative result of cytological study does not exclude the presence of neoplasm.

The plan of further treatment depends on morphological structure of the testis tumor and its diffusion (Fig.49, see the supplementary sheet).

V.S.Sakalo (Research institute of urology and nephrology of Academy of medical sciences of Ukraine) developed the schemes of treatment of patients with testis tumor that included the world experience of treatment of this disease).

Treatment of testis seminoma

I stage. The OFE operations with further radiation therapy of the retroperitoneal and glomerular lymph nodes on the affected side.

The radiation therapy involves the inguinal lymph nodes in patients with invasion of the scrotum skin or after the operation on the scrotum; radiation therapy is carried out as distance TGT. The total focal dose of radiation of 25-30 Gr (5 fractions by 2 Gr a week) is sufficient. 5-years' survival rate of the patients is about 98% (91-100%). The recurrent rate is 2.5%.

II stage. It is divided into moderate and massive. Massive cases are cases when CT reveals metastases over 5 cm.

The OFE operation is performed with further radiation of the retroperitoneal and glomerular lymph nodes on either side with TFD up to 36 Gr (5 fractions by 2 Gr a week).

Radiation of the supradiaphragm lymph nodes is not recommended as only 8% of cases have affections of the mediastinum lymph nodes which are treated with the help of polychemotherapy (PCT). 5-years' survival rate without recurrences is 90%.

II stage (massive). The OFE operation is performed with further PCT (using the preparations of platinum).

The results of PCT are worse in patients who have had radiation therapy (Pizzocaro, 1986; Loehrer, 1997). Metastases of seminoma may contain nonseminoma components (Mostafi, 1977).

III stage. The OFE operation is performed with further PCT.

The residual tumor after PCT is, as a rule, in the state of fibrosis. Residual tumors of over 3 cm in size may contain tumorous cells and require additional treatment (radiation therapy or excision).

Treatment of nonseminomic testis tumors

I stage. The OFE operation is preformed with further retroperitoneal LAE. The LAE operation is performed by sparing neuro-saving technique to preserve ejaculation ability.

Thorough weekly control is required during the first year with every two months' control during the second year. Tumor growing in into the lymphatic and/or blood vessels increases the risk of remote metastases from 6 to 19%. 27% of patients with I stage of the disease are revealed to have metastases in the remote retroperitoneal lymph nodes. In the first signs of progressive development of the disease it is necessary to administer PCT. 15% of patients who have no metastases in the retroperitoneal lymph nodes are revealed to develop metastases in the lungs during 18 months (Kiepp, 1990). Development of the tumor in the retroperitoneal area is observed in 2.4% of cases (Weibbach, 1988). The application of PCT allows to attain remission in 90% of patients.

I stage (modification of the method). The OFE operation without retroperitoneal LAE has been used for the last 10 years.

This tactics may be used in such conditions:

- negative data of CT and TM studies;
- the patient's comprehension of necessity to perform regular CN of the retroperitoneal lymph nodes;
- monthly control for 2 years.

Risk factors of metastasis:

- invasion into the lymphatic vessels;

- invasion into the blood vessels;
- presence of embryonic cancer;
- absence of the yolk sac tumorous elements

Presence of three of the four above enumerated signs form a threat of metastasis in 58% of patients (Friedman, 1987).

PCT given by the scheme with cysplatin, etoposide and bleomycin (PEB, 2 courses) decreases metastasis risk from 50 to 5% (Pont, 1996).

II stage. The OFE operation is performed with further retroperitoneal LAE and weekly control.

Such treatment when there is PCT in reserve is recommended to patients with metastases into the lymph nodes if the number of metastases reaches 6 and each of them does not exceed 2 cm as well as there no extracapsular invasion. The rate of progressive development does not exceed 10%. PCT is used only in progressive development of the disease, and it is effective in this case (Richie, 1991). The patients in whom indices of TM did not get normal are recommended to make PCT. When vascular invasion of the primary tumor after LAE is confirmed microscopically the progressive course is observed in 64% of the patients. The progressive course is observed in 24% of the patients without vascular invasion.

The patients with vascular invasion of the primary tumor are recommended to take two courses of adjuvant PCT (Sesternhenn, 1992).

II stage. The tactics of treatment of the patients with regional metastases sized over 5 cm and who cannot be cured completely is only PCT.

The OFE operation is recommended with further PCT and excision of the residual tumor in the retroperitoneal region (if found) and control follow-up.

The necessity in excision of the residual tumor often arises after 3-4 courses of PCT and normalization of TM.

In 33% of patients the operation material is revealed to have fibrosis, necrosis; in 33% - mature teratoma; in 33% - living tumorous cells (V.S.Sakalo, 1992). The presence of living tumorous cells is an indication for giving additional PCT (Fox, 1993).

III stage. The OFE operation and PCT are performed.

Patients with metastases into the brain are recommended PCT and radiation therapy.

Chemotherapy for the diffused testis tumors (the 1st line) should be given.

The most effective schemes are PCT with PVB and PEB.

PVB

Cysplatin 20 mg/m^2 per 24 hours from the 1st to the 5th day intravenously.

Vinblastin 0.2 mg/kg per 24 hours, the 1st and 2nd day intravenously.

Bleomycin 30 mg, on the 2nd, 9th and 16th day intravenously.

The course is repeated with an interval of 21 day.

PEB

Cysplatin 20 mg/m^2 per 24 hours from the 1st to the 5th day intravenously.

Etoposide 100 mg/m^2 per 24 hours, from the 1st to the 5th day intravenously.

Bleomycin 30 mg, on the 2nd, 9th and 16th day intravenously.

The course is repeated with an interval of 21 day.

Results of treatment (Droz, 1996)

The progressive course of the disease is observed in 10% of patients with good prognosis and in 30-50% - with bad one.

For the last years the remedy “Iphosphamid” is widely used in the treatment scheme of patients with diffuse testis cancer with bad prognosis. It is used together with uroprotector “Uromitexan” (“Mesna”).

Only application of iphosphamid and etoposid can result in complete remission in patients who have been given PCT with cysplatin.

The treatment scheme of primary patients with bad prognosis

Caboplatin 400 mg/m^2 intravenously on the 1st day

Iphosphamid 1.5 g/m^2 intravenously on the 2nd, 3rd, 4th and 5th day

Mesna 0.9 g/m^2 intravenously on the 2nd, 3rd, 4th and 5th day

The interval between cycles is 28 days (4 cycles).

Results of treatment of primary patients with bad prognosis (Amato, 1995)

Complete remission is observed in 71% of patients. Absence of recurrence after resection of the residual tumor is observed in 24% of patients. The progressive course of the tumor is in 5 patients. No recurrence for 3 years is observed in 91% of patients.

Saivage therapy (Pizzocaro, 1992)

The scheme VIP

Iphosphamid 2.5 g/m^2 on the 1st and 2nd day

Mesna 2.4 g/m^2 on the 1st and 2nd day

Cysplatin 100 mg/m^2 on the 3rd day and 40 mg/m^2 on the 5th day

Vinblastin 6.0 mg/m^2 on the 3rd day

The interval between cycles is 28 days (4 cycles).

The disease *prognosis* in patients with testis tumors depends on the disease stage and histological structure of the tumor. It is favourable in case of seminoma when the 5-years' survival rate is nearly 100%.

The increased level of CG is an unfavourable prognostic factor. It is proved that decreased level of CG during radiation therapy or PCT is evidence of treatment efficacy and vice versa its increased level during therapy and during the follow-up is unfavourable prognosis. The cases are known when the patients with seminoma with increased level of CG were found to have retroperitoneal metastases of other histological structure (embryonic cancer and choreonepitheloma) despite the fact that primary tumor was studied with the help of series sections.

Prognosis is worse in nonseminomic tumors although the utilization of active surgery (retroperitoneal lymphadenectomy) and up-to-date PCT allows to improve results of treatment.

Thus, active detection of the disease, early diagnosis, adequate surgical intervention and radiation or drug therapy with modern chemical drugs help to obtain good results in treatment of patients with testis tumors.

CASE STUDIES

65 year old patient complains of inability to micturate with pain in the lower abdomen. The above symptoms arose since 14 hours.

Your preliminary diagnosis? Your recommendations for diagnosis and treatment?

70 year old patient complains of malaise, headache, vomitting, involuantry dripping of urine. Skin covers pale. Dryness of tongue, covered with brown film. Soft abdomen. Symptom of Pasternatsky negative on both the sides. During percussion the urinary bladder is determined 6 cm above the pubis. Prostate gland is increased in size evenly, firm elastic consistency. Surface is smooth, interlabular fissure is smoothed. Serum urea 29.9 mmol/l.

Your preliminary diagnosis? Recommendations for treatment?

62 year patient, feels difficulty in micturition, urine stream is weak and thin. Skin covers normal. Tongue moist, not covered by a film. Abdomen soft and painless. Symptom of Pasternatsky negative on both the sides. Urinary bladder is not determined by percussion. External reproductive organs developed normally. By digital rectal investigation prostate gland is moderately increased in size, right lobe is tuberous, of stony consistency, painless. Mucous membrane of rectum above the right lobe is fixed.

Your preliminary diagnosis? Which investigations are necessary to confirm the diagnosis?

A 65 year old patient complains of difficulty in micturition with weak stream, nocturia 3-4 times. Considers himself ill since last 2 years, when first noticed micturition during the night. Skin covers and visible mucous membranes of normal colour. Organs of rib cage and abdominal cavity without any changes. Kidneys not palpable. Symptom of Pasternatsky negative on both the sides. Urinary bladder upon percussion is hollow. During digital rectal examination the prostate gland is noted to be slightly increased in size with smooth surface, film-elastic consistency, painless.

Which diseases could be suspected? Which diagnostic methods could confirm the diagnosis?

A 63 year old patient complains of pollakiuria, nocturia 4-6 times, thin urine stream. Twice suffered from acute retention of urine. After single catheterization of the urinary bladder urination was reinstated. Palpation reveals an elastic spherical formation of the size 6 x 8 cm. Percussion above the formation is blunt. During digital rectal examination, prostate gland is revealed to moderately increased in size, with smooth surface, elastic consistency and painless.

Your possible [?] diagnosis? Which investigations should be performed to confirm the diagnosis?

60 year old patient was treated by a neuropathologist on account of lumbo-sacral radiculitis, but a month after treatment he was admitted to the traumatology ward with metastases in lumbo sacral sections of the vertebral column, bones of pelvis and fracture were noted.

What was the mistake of the neuropathologist? Which investigations were necessary for the patient before beginning physiotherapy?

CONTROL QUESTIONS

1. What is the adenoma of prostate gland, from the point of view of neorphogenesis?

2. What happens to the prostate gland in case of adenoma of parauretheral glands?
3. Which pathoanatomical changes take place in the upper and lower urinary tracts in case of adenoma of prostate?
4. In which three stages is the clinical appearance of the disease divided?
5. What is the symptom of residual urine and how is it determined?
6. What is paradoxical ishuria?
7. In which stage of the disease can develop acute urine retention?
8. Complications of the adenoma of prostate?
9. Diagnostics of adenoma of prostate?
10. Differential diagnostics?
11. What are the indications for radical surgical treatment?
12. Which accesses are used for such operations?
13. What are the indications for palliative operations?
14. What immediate assistance could be accorded to such patients?
15. Symptomatics and clinical appearance of prostate cancer?
16. How frequent is prostate cancer?
17. Which roentgenological signs are characteristic of prostate cancer?
18. What are the changes in acid phosphatase in the serum of patients with prostate cancer?
19. What are the indications for radical prostatectomy?
20. Indications and types of palliative operations in prostate cancer?
21. Which hormones are used in treatment of prostate cancer?

SAMPLE ANSWERS TO CASE STUDIES

1. Considering the age of the patient, acute urine retention may be caused by the adenoma of prostate gland. After the conduction of digital rectal investigation, catherization of urinary bladder, preferably by Timon's catheter. In the absence of renal failure excretory urography with descending cystography by the method of Knaize-Schobert is recommended. Further the patients should be prepared for radical treatment - adenomectomy.
2. Involuantry dripping of urine with overfilled urinary bladder and increased prostate gland are the signs of paradoxical ishuria, characteristic of adenoma of prostate glands in the III stage. This stage is also accompanied by renal failure, anemia, electrolyte imbalance, intoxication which is presented as malaise, nausea and headaches. In such cases cystostomy followed by disintoxication therapy, correction of electrolyte balance and preparation of the II stage of adenomectomy.
3. Considering the age of the patient, difficulty in micturition, weak stream, stony consistency of the right lobe of prostate gland we could suspect a malignant tumour. For confirming the diagnosis it's necessary to investigate the secretion of prostate gland for atypical cells, X-ray of pelvis, excretory urography with descending cystography for investigating the condition of upper urinary tract and the degree of proliferation of the tumour into the cavity of urinary bladder, urethrography – for defining condition of the prostatic part of the urethra. And finally the most confiding would be the biopsy of prostate.

4. Clinical signs are characteristic of adenoma of prostate in the I stage. For confirming diagnosis it is important to conduct plain and excretory urography. In this case for the I stage of adenoma would be characteristic to retain the functions of kidneys. X-ray signs of adenoma – symptoms of “hill” or “parachute dome”. In case of confirmation of diagnosis single moment adenomectomy may be indicated.
5. Preliminary diagnosis – adenoma of prostate gland in the II stage. For confirming the diagnosis it is recommended to conduct radioisotope renography with determination of residual urine in the urinary bladder, collect information about the adenoma by cystoscopy, cystography, ultrasonography investigation.
6. Basic clinical symptoms of cancer of prostate gland could sometimes be continuing, severe radiculoalgia, which are sometimes considered by neuropathologist as primary radiculitis. In this particular case, the physiotherapy was contraindicated as it causes rapid growth of tumour and faster metastases. The most favorite site of metastases is the bones of pelvis and vertebral column. It could be conferred from this case, that any aged patient suffering from pain in the spinal cord should be examined by urologist for excluding pathology of prostate gland.

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