Odessa National Medical University
Department of Urology and Nephrology

METODSCAL WORKING of practical training for teachers
Topic 4. Congenital anomalies of the lower urinary system and male reproductive system.

Academic discipline “Urology”
Level of higher education: Second (Master’s)
Knowledge field: 22 "Health Care"
Specialty: 222 "Medicine"
Program of professional education: Medicine

Approved
methodological meeting on the chair
28. 08. 2023
Protocol № 1
Head. Chair prof. F.I. Kostev

Odesa 2023

Subject of practical training: Congenital anomalies of the upper urinary system. Nephroptosis. Hydronephrosis. - 2 pm

1. Actual topic.

Anomalies of urinary tract known as the most common group (40%) anomalies human organs and systems. About 10-14% of modern children are born with such defects. And among urological patients of these patients reaches 12%.

Targeting a large number of malformations of the genitourinary system is of great importance in shaping the future physician. There are many medical specialties are facing this disease. This is especially urologists and nephrologists. But the anomaly of the urogenital system, occur in practice, internists, pediatricians, radiologists, geneticists, emergency surgery, etc. Knowledge of vices and tactics of their treatment often saves the patient from undue operations and dangerous methods of examination. Or conversely, the operation is proposed in a timely manner, when there is favorable conditions. In addition, meeting and study anomalies can delve into their origins.

Social and environmental problems in Ukraine will inevitably contribute to the growth of anomalies and malformations, the population frequency of which has no tendency to decrease and, in the aggregate data, G.I. Lazyuk (1991), ranges from 2.7 to 16.3%. Based on the study of clinical data, immediate and remote results of treatment, we can conclude that early diagnosis of malformations of genital organs and urinary system is at the low level (V.S. Karpenko et al., 1991 V.V. Lapshin, 1994). Abnormalities of the kidneys and urinary tract most often detected by palpation of the bulk of education in the peritoneal cavity or after the associated complications as hematuria, urinary tract infections (Gordon AC et al., 1988, K. A. Del 'Agnolo et al., 1989).

The analysis of living conditions, geographical, ethnographical, ecological and social dimensions of existence of a sick person and his relatives in connection with specific defects, helps in the search for genetic, toxic and other bases of this pathology and methods for its prevention.

2.Whole classes.

2.1.Studies goal.

2.1.1.introduce students with (I-s level):

-Clinical anatomy and physiology of urinary system; variety of defects, all organs and systems of rights;

-location and frequency of malformations of urinary system.

-negative vices that impede the full human life;

-means of preventive intervention in the environment of modern humans in order to prevent the anomalies; and economic aspects of diagnosis and treatment of anomalies of sex in adult and

pediatric practices; territorial characteristics and geographical distribution of anomalies of urinary system;

2.1.2.Student should know (II-s level):

1. Clinical anatomy of the urinary tract;

2. Normal and pathological physiology of the urinary tract;

3. Classification malformations of the kidneys and ureters;

4. Clinical manifestations of malformations of urinary system

5. methods of diagnosis of urinary tract malformations;

6. complication of kidney and ureter abnormalities;

7. Indications for surgical treatment of patients with malformations of the kidneys and ureters;

8. optimal age for surgical intervention;

9. variety of abnormalities of the urinary bladder;

10. variety of anomalies in the urethra in boys and girls;

11. developmental abnormalities that lead to intravesical obstruction;

12. clinical course of intravesical obstruction in young children;

13. timing of surgical treatment of children with developmental disabilities, bladder and urethra.

2.1.3. The student should be able to (III-rd level).

- Perform palpation renal dystopia, polycystic, solitary cysts, determine their consistency, mobility;

- On the basis of complaints and clinical evidence to suspect an anomaly of the kidneys,

- Plan additional examinations of the child and the adult with suspected congenital malformations of the kidneys and ureters;

- During the interpretation of the X-urogram to determine the type of anomaly and the possible complications (pyelonephritis, urinary concretions, hydronephrosis, urinary stasis);

- To palpation and percussion in the projection of the bladder;

- Recognize schistocystis, epispadias and hypospadias;

- Under a set of clinical-laboratory and instrumental examinations suspect intravesical obstruction;

- Perform normal urination and cystography with the interpretation of its results;

- Perform catheterization male and female urethra;

- A cystoscope to the bladder through the female urethra.

2.2. objectives related to:

-Medical identity-formation, especially preventive direction;

- Medical orientation in many environmental factors that affect human health;

- To inculcate patriotism on the basis of use, while examining themes domestic research indicating their authors;

- Motivation of love and reverence for the urologic specialty on the basis of positive or extraordinary example of the return of health or life of the patient;

- Raising the legal approach to medical procedures and interventions: physician and patient, as the subjects of law;

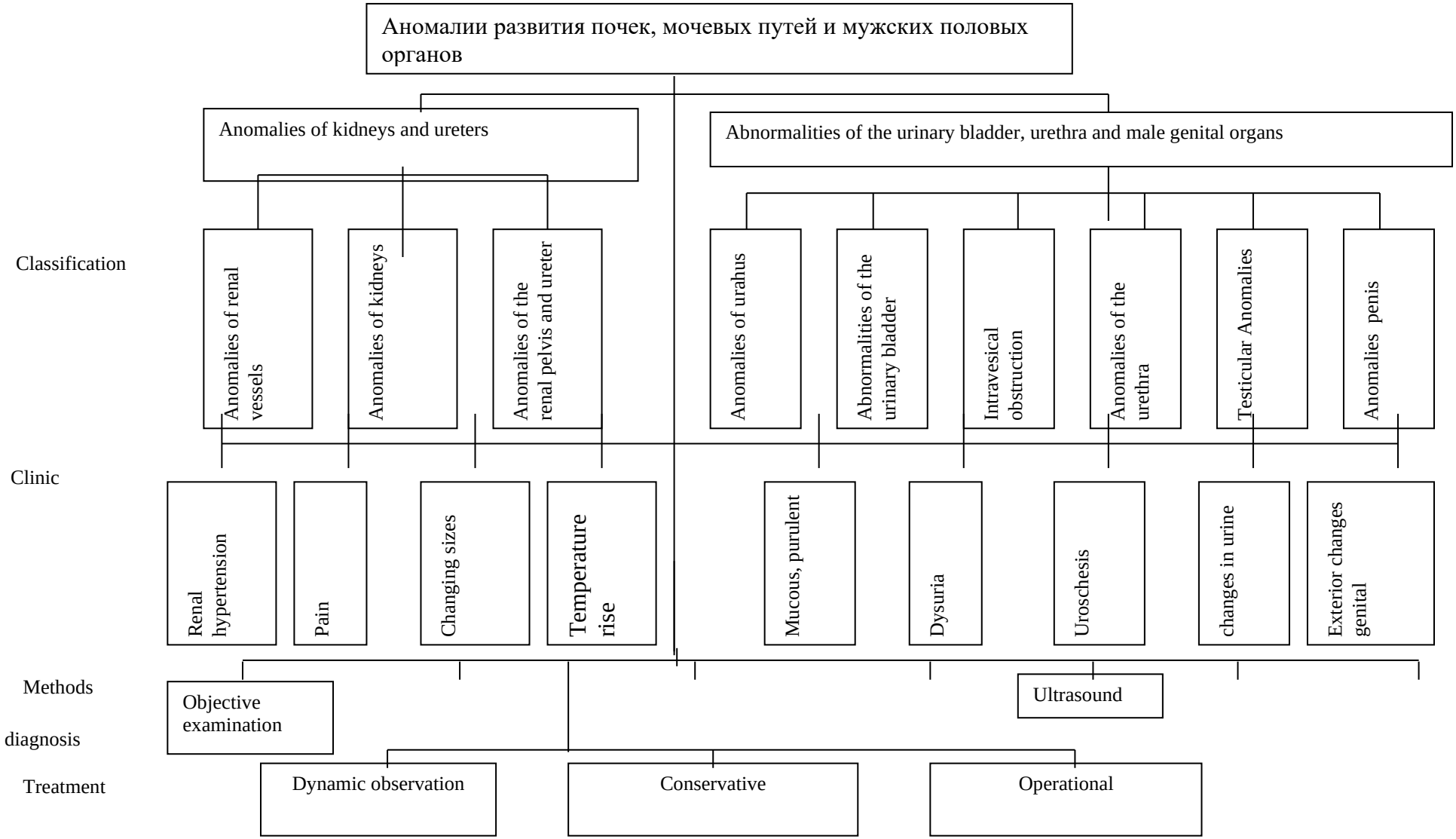
- The disclosure of the axiom that prevention is cheaper treatment, economic approach to the treatment case.

3. Materials outside the classroom self-training (interdisciplinary integration)

Subjects	Know	Know
1. Previous discipline		
Normal anatomy urinary tract	Macrostructure and the size of urinary tract	Run interpretation rules of urinary tract rights in CT scan.
Normal physiology of each organ system of the human urinary	Functionality of each organ of the urinary system	Find laboratory parameters, which can confirm the normal function of urinary system.
Pathological anatomy	Pathomorphology vices	Find a place specific defect of the urinary system in the existing classification of the.
Physiopathology	Effect of structure on the anomalous function gional state of urinary tract	The deviation function-tional parameters determined to divide the degree of functionally insufficient authority of the urinary system.
Rengenologiya	Rengenmorfologiyu malformations of urinary system.	Find a set rengenobsledovany for suspected anomaly.

2. The following disciplines		
Genetics	Genetically dependent vices	Calculate the possible environmental factors for the emergence of genetic aberrations.
3 Interna object integration		
Hemodialysis and transplantation plunges.	Features of renal-replacement methods.	Find the best for a particular clinical situation.

5.1. The content classes (structural and logical framework).



5.2. The contents of the topic classes.

Anomalies urino-genital organs make up more than 30% of all births defects of human development. In most cases, urinary tract anomalies are observed violation passage of urine, which assists the development of inflammatory processes, stone observation, atrophy of renal parenchyma, renal insufficiency.

Agenesia (aplasia) kidney - her absence. It may be unilateral or bilateral. Bilateral agenesia not shared with their lives. The only congenital kidney diagnosed with a survey about urinary tract disease.

Hypoplasia - the inherent reduction in kidney size, but with a normal histological structure and the absence of violations of renal function. It should be distinguished from secondary shriveled kidney. The extreme degree of hypoplasia is defined as a rudimentary kidney.

Doubling of the kidneys - a doubling of parenchyma, renal vessels, pelvis and ureter. Clinical manifestations depend on the development of complications.

Additional (third) kidney has some blood, and ureter, which is located below the normal kidney and does not connect with it.

The anomalies are the consequence of a breach of the normal movement of the primary buds of the pelvis in the lumbar region . Depending on the location of allocated pelvic, iliac, lumbar, thoracic, cross dystopia. What is situated below the kidney, the more it will affect the process of rotation. Clinical signs are abdominal pain caused by pressure on adjacent organs, nerve plexus, a violation urodynamic. Should be distinguished from n, tumors ventral cavity and peritoneum space. Thoracic dystopia is often perceived as lung tumor.

Anomalies relative - fusion of both kidneys: one-sided (and - like the kidney), bilateral (symmetrical – horseshoe and biscuit like kidney, asymmetric - L and S - similar to the kidney). Kidney joined more inclined to measure the development of hydronephrosis, nephrolithiasis, pyelonephritis, kidney hypertension.

Cysts kidneys - one of the most common congenital malformations. Some of them are manifested in childhood, while others diagnosed in adults.

Polycysts kidney - an anomaly in which the renal parenchyma replaced by cysts of various sizes, often combined with poly cyst liver, spleen, lungs, etc. The anomaly has a family and the hereditary nature (autosomal - recessive transmission). Clinic varied and determined by the development of hypertension, chronic renal insufficiency, the development of pyelonephritis, etc. With an objective study palpation enlarged, uneven buds. Treatment at early stages is to periodically subcutaneous puncture, symptomatic treatment, treatment complications.

Solitary (simple) cyst of the kidney - can be congenital or acquired diseases. Treatment to be large, symptomatic cysts (which cause pain, hypertension, violations urodynamic). In most

cases, surgical treatment is endourological drainage in association with sclerotherapy, endoscopic marsupilizatsii wall cysts, laparoscopic or open removal of cysts, only atrophy of renal parenchyma in the running nephrectomy.

Multi-cyst (cystic kidney rudiment) - one-sided process that conclusion the full replacement of kidney tissue cysts, and obliteration of ureter.

Foam bud - is characterized by the presence of multiple small cysts in the renal pyramids. **Cup cyst** - diverticulum cups**.**

Doubling of pelvis and ureter - meets with double kidney. A full doubling of the urinary tract ureter, decrease among themselves, open in bladder individual holes, the upper drainage of the lower part of the double kidney and bottom - the top part of it (the law Veygertu - Мейєру). Typically, both ureter at different distances from the kidney to merge and flow into the bladder one mouth.

Ureterocele – interavesical protrusion of all layers mural department of ureter, from the outside looks like a cyst. Typically there is a doubling in the kidney.

Ectopic openings ureter can be interavesical and vnepuzyrnoy. In the latest version of the girls mouth ektopirovannogo ureter is usually slightly in the vaginal vault, or other divisions of external genital organs, the urethra, the rectum, neck or body of the uterus; boys - in the rear portion of the urethra, semyavynosyaschy duct, seminal vesicle, perineum, rectum, etc. A typical symptom is the «false» enuresis.

Retrokavalny ureter - anomaly of the lower hollow vein, in which the ureter in the upper third of the lower spiral covers poluyu vein, and starting from the middle third is in the normal direction. Such an unusual arrangement of ureter leading to loss of urine and hydronephrose transformation.

Cystic - ureteric reflux may be caused by a congenital deficiency lock apparatus openings ureter or violation potency cystic - ureteric segment and chronic inflammatory processes.

Narrowing (stricture) ureter observed in 0,5-0,7% of the children. The most common abnormality is localized in the cystic - ureteric segment, then a - ureter pelvis junction.

Neuro - muscular dysplasia ureter - Bilateral congenital narrowing of the openings and inter bladder of the ureter in association with neuro - muscular dysplasia of the lower contraction, which leads to expansion of ureter - .

Stages of **achalasia ureter:**

- Extension of the lower third of ureter;
- Expansion ureter along its entire length;
- hydro-ureter-nephros.

urinary flow:

- Full - supra-bladder - fistula;

- suprapubic fistula;

- Urahusa cyst, bladder diverticulum.

Bladder diverticulum - meshkovidnoe protrusion of the wall. It can be solitary and multiple. The cause of congenital diverticulum is incorrect formation of the wall of the bladder.

Extrophy bladder - congenital absence of the front wall and bottom of the front abdominal wall. Boys are often combined with epispadia. "post bladder obstruction" - a syndrome that combines many cystic disease - ureter segment and the urethra. Common manifestations are difficulty in urination, chronic delay in the urine ureter reflux, ascending urinary tract infection, bilateral ureterohydronephros, the development of chronic renal insufficiency. Congenital causes are:

- Hypertrophy folds;

- Increase urinary bladder triangle (megatreugolnik);

- Excessive mucosal ureter triangle;

- Bladder neck contracture;

- Valves, urethra;

- Hypertrophy of seed tubercles;

- Narrowing of the external openings of the urethra;

- Obliteration urethra;

- Narrowing of the urethra.

Diagnosis: presence of symptoms of lower tract, miktsonnaya and rising tsistouretrography, uretrotsistoskopiya. Treatment - rapid, aimed at normalizing urodinamiki.

hypospadia - an anomaly that is characterized by the absence of the posterior wall of the distal part of the urethra. There are the following forms hypospadia: head and body of the penis, the members-cod, promezhnostnuyu. There are another form of "hypospadia without hypospadia, would be expected that the urethra slightly in the normal place, but because of the short urethra penis curved. Treatment only prompt. Improvement should be completed in early childhood.

Epispadia

a - congenital splitting of some or all of the front wall of the urethra.

5. 3. Plan and organizational structure of classes

№№	The main stages of training, their function and content	Training integers to levels of learning	Funds training and supervision.	Materials concerning the methodological-one sessions to ensure the visibility, control knowledge	Term in minutes
1	2	3	4	5	6
A. PREPARATORY PHASE. 45 minutes					
Organization of sessions					
1.	Production of educational goals			see «Teaching objectives», «The relevance of the topic»	
2.	Controlling the source of knowledge.	II-s	a) Question b) Objectives c) test problem.	5 questions for all students 3 goals for all students with 3 options - NTA, 5 replies, 1 true.	
3.	Control skills.	III-rd.	a) palpation of the kidneys b) Reading excretory urography.	sick in bed and standing 10-12 rengenogram different directions, including excretory urography.	
B) The main stages. 1 hour 15 minutes					
1.	1. Conduct a study patient with poly cyst	III-rd	kidney. Anamnesis, palpation, analysis of laboratory smooth, etc.	in-governmental data. poly cyst patient with kidney disease history, urogram.	
2.	2. Make a chart of treatment of patients with	III-rd.	History, RENGO-imagery analysis	history, ureter-gram,	

	cystic hydro ureter and - Ureter-Esophageal Reflux		laboratory Tornio and others - instrumental data.	isotopic reno-gram laboratory data.	
3.	Make a model anomalies of the upper urinary tract and functional of the state of the kidneys.	III-rd.	History, reno-graphy isotopic analysis of laboratory smooth, etc. in-governmental data.	Patient with 2-side cystic - ureteric Reflux, history, reno-gram.	
4.	Learn the technique implementation miktsionnoy tsistography.	III-rd.	Catheterization of the bladder, infusion RENGO-contrast substance obturation catheter, imitation urinating	patient, ureteral lines catheter ,1-2 ampoules , clamp placement RENGO-Urological study	
5.	Create a model for performance of angiography renal vessels.	III-rd.	Thigh artery catheterization, a catheter to the renal artery. infusion RENGO-contrast substance.	Snapshot. Waxwork thigh, vascular catheter angiograma	
6.	. Carry out interpretation of angiograms with pelvic kidney dystopia.	III-rd.	Angiography after excretory urography in 2 positions.	Excretory urogram, angiograms	
7.	Acquire technology excretory urography	III-rd.	infusion RENGO-constrast substance	Ill-ectopic position Thus, urography placement RENGO-urological office.	

	suspected ectopic position		pictures of recumbency and standing.		
8.	Make a chart survey and treatment of hydronephrosis	III-rd.	Excretory urography, iso-tope renography, with laziksom. Analysis of the feasibility of plastic surgery.	urogram, renogram, schemes of various plastic operations on the LMS.	
9.	Conduct difdiagnosti - ku-vices among the reasons infrave - zikalnoy obstruction.	III-rd. .	Ureterography, tsistografiya c- IOM «Fountain», rectal examination.	Syringe Jeannet, uretralny catheter layout palpatornyh deviations of the prostate.	
C) FINAL PHASE. 20 minutes					
1.	Select all the elements needed to: a) excretory urography b)urethrocystogr aphy.	III-rd.	virtual model simulation performed x processes.	Urografin, RENGO - film ureter catheter syringe Jeanne cystoscopy, uretral catheter.	
2.	. Schematic drawing relationships kidney (anomalies)	III-rd.	Podkovopodobna S-like, L-like, biscuits - like	A sheet of paper, pencil	
3.	Schematically otbrazit evils of kidney	III-rd.	dystopia: thoracic, lumbar, lumbar, pelvic, cross.	sheet of paper, pencil	

SUMMARY	5 minutes
PROVISION OF DOMESTIC TASKS	5 minutes
CONTROL OF THE FINAL PHASE: Objectives, tasks, test	30 minutes

6.1. Materials methodological lessons.

1. Preparatory phase.

Question.

1.1.1. What is an anomaly of development?

Answer: The anomaly of development - it is congenital deviations outside the normal variations in the anatomical structure (shape, size, number) of tissues and organs, most of which are accompanied by violations of their functions, or even threaten the viability of the organism.

1.1.2. What part of anomalies among the people are anomalies of the urinary system?

Answer: 40%.

1.1.3. What percentage of children born with anomalies of the development of urinary system?

Answer :10-14%.

1.1.4. Which group are the development of urinary system anomalies?

Answer: The renal vessels, kidney, ureter, triangle cats, bladder, urethra and penis, testicles.

1.1.5. Why is it important to study the anomalies of the development of urinary system? Answer: A number of anomalies of the kidneys and urinary tract threaten a child's life. They assist the development of other difficult diseases - inflammation of kidney, urolithiasis, cancer and others.

1.2. Objectives.

1.2.1.On excretory urogram in the supine position, pelvis, right kidney at the level of the body L-2, and standing on equal L-4. On some anomalies of the urinary system in question?

Answer: nephroptosis two stupas.

1.2.2. On excretory urogrammah in both positions (lying and standing) pochkanahoditsya equal to L-5. What kind of development anomalies of urinary system are we talking about?

Answer: lumbar dystopia right kidney.

1.2.3. During the execution cystography defined ureters, enlarged in the bottom third. What an anomaly exists in the patient?

Answer: Bilateral vesicoureteral reflux. Achalasia ureters.

1.2.4. During the cystoscopy identified with one side two holes ureter, the other one. What kind of development anomalies of urinary system are we talking about?

Answer: Unilateral complete the doubling of the upper urinary tract.

Tests.

1. What causes narrowing of the renal artery?

A. urolithiasis.

B. renovascular hypertension

C. chronic pyelonephritis

D. Shrinkage kidney

E. chyluria.

2. What are the developmental anomalies of the kidneys are a group of anomalies "interposition"?

A. Hydronephrosis

B. Multikistoz

C. Horseshoe Kidney

D. Dwarf Kidney

E. Additional kidney

3. What is the anomaly of the urinary system is low on chronic renal failure?

A. fistula urahusa

B. polycystic kidney

C. epispadias

D. Cryptorchism

E. diverticulum of bladder.

4. Patient B., aged 16, said in his two-act mochevypuskaniya, ie After emptying the bladder, which is accompanied by pain in the lumbar region, a minute - another noted a feeling of incomplete emptying of the urinary pkzyrya, as evidenced by secondary urination. On some anomalies of the urinary system in question?

A. diverticulum of bladder

B. vesicoureteral reflux

C. neurogenic bladder

D. bladder stone

E. chronic cystitis

5. In patient M. 45 years old at the time of ultrasound studies revealed a solitary accidentally brush the lower pole of right kidney 2x2 cm for the data of isotope renography secretory-excretory function of kidneys is not affected. In general, the analysis of urine - without pathology. What tactics of treatment?

A. dynamic monitoring

B. cyst puncture under rentgenkontrolem

C. open surgery

D. puncture of the cyst under ultrasound control

E. Skleroteraiya

6. Does the physiology of sexual intercourse, if the patient is aplasia of the prostate gland?

A. intercourse impossible

B. prospermia

C. sexual intercourse accompanied by Bill in the testes

D. after intercourse observed urination

E. intercourse almost unchanged

7. What pathology is caused by increased venous pressure in the kidney?

A. Testicular cyst

B. hydrocele

C. varicocele

D. Testicular hypoplasia

E. testicular tumors

8. What is the anomaly does not alter urethral urination?

A. hypospadias

B. valve urethra

C. hypertrophy Semianov tubercle

D. narrowing of the external orifice of urethra

E. ankylurethria

9. On excretory urogram in patient S., in both positions (lying and standing) kidney is on equal L-5. On some anomalies of the urinary system in question?

A. Lumbar dystopia right kidney.

B. nephroptosis

S. hydronephrosis

D. poikistoz

E. sponge kidney.

10. On excretory urogram (7-ma minute) which is considered the urologist intern, right renal pelvis was determined at the level of L 3-4. "You nephroptosis III degree. Need surgery - nefropeksiya "- the doctor said the patient. What kind of mistake that a clear conclusion intern?

A. nephroptosis recognized only by retrograde pyelography

B. has not been done difdiagnostika with lumbar ditopiey, which is not treated surgically

C. when a pathology is better to perform nephrectomy

D. nefropeksiya technically impossible.

6.2. Content control for the main phase of occupation.

A. Review Questions.

1. What assists the successful treatment of developmental anomalies of the urinary system and their complications?

Answer: The successful treatment of children with abnormalities of the urinary system and prevention of complications supports early diagnosis through wide coverage of ultrasound for pregnant women, and in case of detection of anomalies of the urinary system of the fetus - the identification of its nosologic entity, the nature and extent of violations of the urodynamics of the urinary tract in early period after birth, only in a specialized children's urological hospital. This also applies to children Pyuria, urination disorders and various types of urinary incontinence. Unacceptable in these cases is soothing tactics doctor at the entrance of these children with the conclusion that these symptoms are self-liquidating with the growth and development of the child. It must be remembered that for these clinical manifestations may may have to do developmental anomalies of the urinary system.

2. What role will play a complex urodinamichne examination for suspected anomalies of the urinary system?

Answer: With the introduction of objective research methods of the act of urination (urofluometry retrograde cistotonometry, urethral profilometry, urofloudinamometry) have dramatic changes in views on the nature of pathological processes that lead to a breach of transport urine from the upper and lower urinary tract, ie, violations of urodynamics. In contrast, organically-obstructive factor, formulated the concept of functional disorders of urodynamics genesis at the level of the bladder - the urethra and introduced the concept of clinical detruzor-sphincteric disenergii that radically changed approaches to treatment. Discard as anarchism of "contractions of the bladder, declared inadmissible surgery on the neck of the bladder in children (resection of the neck, V-, plastic, etc.).

3. What is the role of urodynamic disorders in patients with developmental anomalies of the urinary system?

Answer: It is proved that the clinical manifestations of anomalies of the urinary system caused by varying the degree and nature of violations of urodynamics. Determination of the causes (organic or functional obstruction) and levels of localization of these pathological changes in the way of the kidney to the external urethral opening was the basis of modern principles of diagnosis and differential treatment different clinical forms of the shortcomings of the urinary system and their complications.

4. How do the developmental anomalies of the upper urinary system and developmental abnormalities of the lower urinary system?

Answer: developmental anomalies of the upper urinary tract observed in 1 / 3 of children, developmental anomalies of the lower urinary tract - in 2 / 3 children.

5. What role will play a prenatal sonography of the fetus?

Answer: Screening method of early diagnosis of developmental anomalies of the urinary system is an ultrasound scan (USS) of the fetus from 22 weeks of gestation. This method of 4,3% of the cases shows various anomalies of fetal development, among which 14.1% represent the anomalies of the urinary system. Prenatal sonography of the fetus allows to differentiate two degrees of severity of defects of the urinary system: a) incompatible with life in the postnatal period, b) those that are subject to correction after the birth of the child. Ultrasound in pregnancy, especially at-risk (adverse trimester of pregnancy, genetic tendency, bad habits, occupational hazards) should be a prerequisite for monitoring the contingent of women.

6. How to evaluate the functional state of vesico-ureteral segment?

Answer: Evaluation of vesico-ureteral segment is carried out with the help of excretory urography in bladder emptying (urodinaichesky test) and with stimulation of Lasix (pharmacological test), comparing the data with the results of the initial excretory urography, during which you can find the presence of "obstruction" ureteral.

7. Give the definition of hydronephrosis?

Answer: Hydronephrosis - congenital defect, which combines three components: an organic obstruction of pelvic-ureteral segment, different degree of dysplasia of the kidney parenchyma, reduced function of the latter.

8. What factors lead to hydronephrosis?

Answer: prenatal hydronephrosis of transformation of the basis for development of the fetus, there are two pathological processes that occur in parallel: intrapelvic increasing pressure due to dysplasia pelvic-ureteral segment malformation and structural and cellular elements of the nephron. After giving birth the pathological changes of anatomic and functional state of kidneys are deteriorating as a violation of the intrarenal hemodynamic lag in body growth, the progression of atrophy of the neuromuscular elements of the walls of the ureter in the area of pelvic-ureteral segment, and in some cases - the accession of pyelonephritis and its consequences.

9. What methods of treatment of hydronephrosis?

Answer: Taking into consideration the peculiarities of the pathogenesis and morphogenesis of hydronephrosis nee changes in the parenchyma of kidney and pelvic-ureteral segment, single patogenetic warranted by the treatment of this defect in children is radical removal of tissue site

of obstruction, and evaluation of the operation may take into account the characteristics of irreversible pathological changes of renal parenchyma : kidney in most cases does not get after the operation normal anatomical and functional state. The main objectives of the operation are to prevent further destruction of renal parenchyma, some improvement in its function due to an increase in the normalization intrapelvic pressure, and decrease the reliability of complications (pyelonephritis, hypertension, etc.).

10. What anomaly is called megaureter?

Answer: megaureter - a term that summarizes different origin variants of congenital ureterectasia the entire length or in its distal part. Formation of congenital megaureter may determine stenosis, vesicoureteral segment, vesicoureteral reflux, idiopathic ureterectasia. Morphological basis of all variants of congenital megaureter in children have fewer smooth muscle cells and at the same time increasing the number of connective tissue structures of the ureter.

11. Which descent clinical variants of obstructive megaureter in children:

Answer: I type megaureter is a consequence of organic stenosis of the distal ureter, and in the pathogenesis of obstruction of the functional state of the bladder may be of secondary importance. Type II megaureter - Functional obstructive, is the result of incomplete adaptation of the ureter to the volume of urine, which passes through the vesicoureteral segment in the absence of his organic stenosis. Last confirmed by the stimulus test with Lasix.

12. It is characterized by vesicoureteral reflux?

Answer: vesicoureteral reflux - a pathological condition vesicoureteral segment due to a violation of the lock mechanism of this division of the urinary tract, resulting in a certain amount of urine, which is transported by the ureters into the bladder under the influence vnutpuzyrnogo pressure continuously or periodically returns to the upper urinary tract in direction of the kidney.

13. What are the threats in vesicoureteral reflux?

Answer: In long-term existence of vesicoureteral reflux, occurs when the functional decompensation of the ureter, it may not be completely emptied of urine. Phenomena urostaza gradually extended to pyelocaliceal system, cause a rise in intrarenal pressure, lead to the development of hydronephrosis transformation.

14. What factors lead to vesicoureteral reflux?

A: In children the main cause of vesicoureteral reflux is the different degrees of congenital anomalies of the lower ureter - namely, hypoplasia of muscles and their replacement by collagen fibers. Degree of defect manifestation may be different - from hypoplasia of individual sections of muscle wall of the ureter to their total replacement by connective tissue.

15. How to diagnose vesicoureteral reflux?

Answer: The main method of diagnosis of vesicoureteral reflux is voiding cystic cystography. The criteria for allocation of vesicoureteral reflux on the extent, the height of the fill radiopaque substances ureter and pyelocaliceal system, kidneys and dilatation.

16. What types of treatment vesicoureteral reflux?

A: The modern approach to treating children with vesicoureteral reflux should be based on the sequence of pathogenetic concept of insufficiency of the vesicoureteral Connections: blemish last => the presence or absence of bladder dysfunction and its clinical form => cystitis => violation of the urodynamics of the upper urinary tract = > kidney damage varying degrees. All this requires multifactorial therapeutic effects on different links patogenetichnogo chain. Thus, we can isolate these types of treatment vesicoureteral reflux: a conservative, instrumental, surgery with postoperative patogenetic therapy.

17. Define schistocystis?

Answer: schistocystis - congenital absence of its front wall and the corresponding size and location of the anterior abdominal wall. This defect occurs in one out of 40-50 thousand births.

18. What types of treatment schistocystis?

A: The only rational method of treatment should be considered extrophy surgical. There are many ways to surgical treatment, which can be divided into two groups: 1) restoration of the cavity of the bladder, sphincter apparatus and the urethra from the local tissue, and 2) the creation of artificial bladder from different parts of the gastrointestinal tract. The optimum age of the child to begin treatment for 2-7 days to 3 months.

19. Give the definition of hypospadias?

A: Hypospadias - congenital underdevelopment of the urethra, which is characterized by the absence of different length segments of the distal, dystopia external orifice of the urethra on the ventral surface of the penis, scrotum, or perineum, replacing the missing part of the urethra rudimentary scars (chord), which bend the penis to toward the scrotum. Hypospadias occurs in one out of 300-450 newborn boys. In girls, this deficiency is rare.

20. What sin often leads to intravesical obstruction?

A: The valves posterior urethra. This defect occurs in one out of 40 thousand-born boys. Valves posterior urethra are different in form, location and number: a crescent-shaped folds, thin membranes, funnels, located above or below the seed node, with one or both of its sides. Peculiarities of anatomical structure (concave surface directed to the neck of the bladder) valves assist violate antegrade current urine. The degree of change urodynamics depends on the shape and number of valves. At the same time not revealing of permeability of the urethra in a retrograde direction, so retrograde urethrography or survey urethral valves is not possible to diagnose the rear of the urethra.

Б. Tests for self-control.

1. Which of the following applies to the size of the anomalies of the kidney (correct answers marked):

- Aplasia of the kidneys;
- Doubling the kidney;
- **Renal hypoplasia;**
- **Rudimentary kidney;**
- Poikistoz kidney
- Solitary cyst of the kidney;
- **Dwarf kidney.**

2. Indicate which of the following methods of examination applied in the diagnosis of polycystic kidneys:

- **Ultrasound;**
- Cystoscopy;
- Retrograde pyelography;
- **Excretory urography;**
- Percutaneous nephroscope.
-

3. name urahusa anomalies: a), b), c), d).

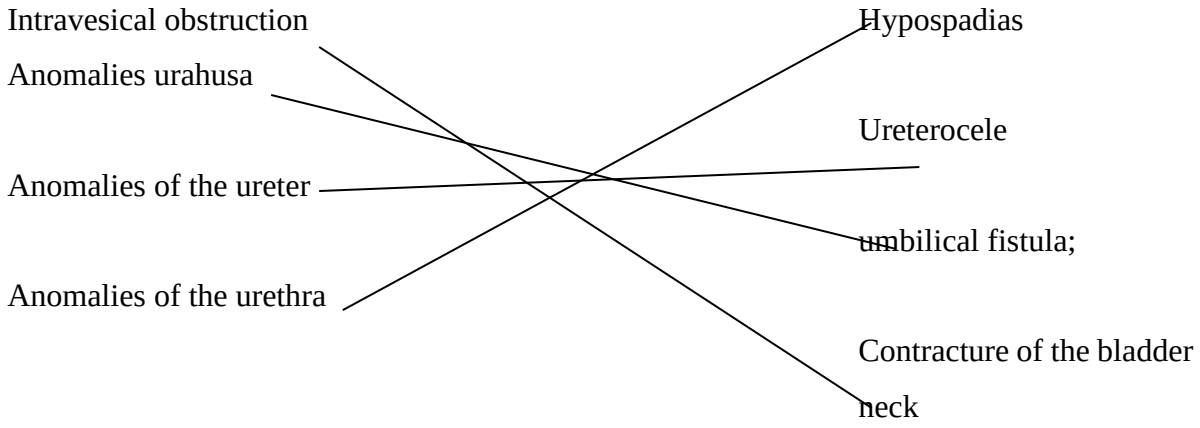
Answer: a) vesicoumbilical fistula;

b) umbilical fistula;

c) cyst urahusa;

d) diverticulum of the bladder.

4. Determine logically related pairs:



B. Objectives for the self.

1. The patient under examination for pain in the lumbar region, a periodic increase in blood pressure found: ultrasonography right kidney 7,3 x 3,2 cm, 0,6 cm thickness of the parenchyma structure of the kidney is not altered. On excretory urogram right kidney reduced in size, CHLS not change the kidney function is not reduced. Pathology of the left kidney was found. Diagnosis?

A: Right renal hypoplasia.

2. The patient's 19 years at a voltage of the navel some liquid with the smell of urine and mucus. Sick throughout life. In contrast fistulography introduced through a fistula in the navel area, falls into the bladder. Diagnosis? Treatment?

Answer: vesicoumbilical fistula. Treatment operative - syringectomy.

3. Patient 29 years complained of periodic pain in the lumbar region to the right, high blood pressure. When ultrasound in the upper pole of right kidney found hydrophilic rounded education, 7,5 x 6,5 cm, the upper band chashechok deformed. Diagnosis?

A: solitary cyst of the right kidney.

4. The patient 1.5 years were diagnosed: cryptorchidism. Endocrine disorders were found. Indicate the nature and timing of treatment.

A: The operative treatment - the omission of egg in one or two stages, the period of treatment - in 2-3 years.

6.3. Content control for the final phase of training.

A. Tests of different levels.

1. In what forms of congenital malformations of the genitourinary system, the following symptoms?

Anomalies Symptoms	Anomalies of renal vessels	Anomalies kydney	Anomalies renal pelvis and ureter	anomalies urahusa	Anomalies bladder	obstruction	Anomalies of the urethra	Anomalies testicular	Anomalies of the penis
Pain	+	+		+	+	+			+
Nefrogen-hypertension	+	+							

Changes in the size of the kidney		+	+						
Increasing the temperature of the body		+	+	+	+	+		+	
Changes in urine		+	+	+	+	+	+		
Dysuria				+	+	+	+		+
Uroschesis						+	+		+

2. Anamaliya number of kidneys are:

A. sponge kidney

B. aplasia

S. hydronephrosis

D. polycystic

E. Lumbar dystopia right kidney

3. Anamalia location of the kidneys are:

A. aplasia (agenesis)

B. doubling (complete and incomplete)

C. More kidney.

D.hypoplasia

E. pelvic dystopia

4. Anamalia structure of the kidneys are:

A. hypoplasia

B. aplasia (agenesis)

C. More kidney.

D. dystopia pelvic

E. Polycystic

5. Differential-diagnostic feature of kidney dystopia is:

A. characteristic structure of the kidney tissue

B. level of deviation of the renal vessels

S. rotation of the kidney

D. malfunction

E. structure Calico ocean voyage of the system.

6. A typical complication of polycystic kidney is:

A. urolithiasis

B. Renal hypertension

C. purulent inflammation of cysts

D. Kidney injury

E. hematuria.

7. The main methods of diagnostics of neuromuscular dysplasia of the ureters is:

A. Kidney biopsy

B. Physical

C. Radioisotope

D. cystoscopy

E. X-ray

8. Full doubling of renal cystoscopy confirmed:

A. ureterocele

B. contracture of the bladder neck

S. strain triangle Letto

D. three mouths of the ureters

E. two of the mouths of the ureters on each side.

9. There is no hypospadias:

A. prostatic

V.promezhnostnoy

C. body of the penis

D.chlenomoshonochnoy

E. penis

10. False incontinence fray are:

A. The ureterocele

V. resulting retrokavalnim ureter

C. due to vesicoureteral reflux

D. due to ureteral ectopia mouth

E. due to the neuro-muscular dysplasia

11. Surgical treatment of hypospadias and epispadias are performed:

A. In grudnichkovom age

B. school age

S. at school age

D.v pubertantny period

E.pered appeal to the army

The tasks of different levels.

1. The patient concerned about a pain in the lumbar region, weakness. On examination: Hb - 80 g / l, erythrocyte - 2,6 x 1012 / L, serum creatinine - 340 mmol / liter. Palpation - an increase of both kidneys, the surface of nodular texture - thick. Put a previous diagnosis, specify the desired method of investigation. The diagnosis: polycystic kidney? Bilateral kidney tumor?

To refine the diagnosis should be ultrasonography.

2. The patient was 37 years old worries dull pain in the lumbar region, increased body temperature to 37,8-38,5 0 C, weakness. Sick for 4 days, possibly after hypothermia. OBJECTIVE: The left kidney is enlarged on palpation, painful. Symptom Pasternatskogo positive on the left. When ultrasound: left kidney of normal size, thickness of the parenchyma 1,6-2,0 cm, the average segment revealed a rounded education 5,0 x 4,5 cm high ehogennosi. pelvic not extended. The right kidney without pathology. In excretory urography: structure and function of the right kidney is normal, in the left kidney, a slight deformation pelvic in the middle segment, the function is moderately reduced. CT data for the formation of new kidney there. Diagnosis? Indicate, where appropriate, diagnostic and treatment policy.

Answer: You can think of suppuration of solitary abscess of the left hand or kidneys. Necessary to satisfy the percutaneous puncture brush or abstsessotomii.

10.2. Question.

1) Why does not "raise" promptly distopirovanuyu kidney?

Answer: vessel and sechovnik too дістопіровані.

2) What is crossing blood vessel with the ureter?

Answer: By narrowing the ureter.

3) How to confirm a suspicion of bladder diverticulum?

Answer: Cystography in 2 projections.

10.3. Objective.

1). Select the demonstration table, all the elements that are necessary to perform cystography urination?

2) Draw a schematic all the shortcomings of the urethra.

3) to paint all stages rengendiagnostiki nephroptosis.

9. Target UDRS and NDRS on this topic.

- Morphological characterization of the structural elements of the urinary organs in health and disease.
- Excretory system of man.

10. The theme of the next session.

Clinical anatomy, physiology and disadvantages of the development of sexual organs.

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