Ministry of Health of the Republic of Belarus
Education Institution
"Gomel State Medical University"

Department of Pediatrics with the course of the Faculty of Advanced Training and Retraining

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METHODOLOGICAL GUIDELINES

for a practical exercise
by a teacher with students
4th year of the Faculty of foreign students,
trainees in speciality 1-790101 in the discipline of pediatrics

Topic: Chronic inflammatory bowel disease.

Time: 6 hours

Approved at the meeting of the Department of Pediatrics with the Course of the Faculty of Advanced Training and Retraining
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2022

LEARNING AND EDUCATIONAL OBJECTIVES, TASKS, MOTIVATION FOR LEARNING THE TOPIC

Educational objective:

- Formation of students' basic professional competence in studying the discipline of pediatrics according to the curriculum;
- formation of scientific knowledge of diseases of digestive organs and perspectives of their use in professional activity; abilities and skills necessary for work with patients of different age, knowledge of clinical manifestations of diseases, treatment-diagnostic measures, dispensary supervision.

Educational objective:

- Fostering in students the sense of professional responsibility of future medical worker;
- Formation of professionally important and socio-psychological qualities of doctor personality in the system of doctor-nurse-patient relations;
- formation of students' responsible attitude to their future professional activity.
- Formation of academic and work discipline, discussion of disciplinary issues (attendance of lectures and practical classes, unexcused absences, tardiness, debts on missed classes).

- **Objectives:**
- As a result of the training session the student should
- know:
- modern views on the etiopathogenesis of chronic inflammatory bowel diseases;
- modern classification of inflammatory bowel diseases;
- clinical manifestations of chronic inflammatory bowel diseases (intestinal and extraintestinal);
- required scope of instrumental and laboratory tests for diagnosis of intestinal diseases;
- groups of drugs for the treatment of chronic inflammatory intestinal diseases;
- principles of dispensary supervision of children with chronic inflammatory intestinal diseases.

be able to:

- by the method of careful collection of anamnesis, selection of information from the history of development to establish the connection of the identified changes with the occurrence of intestinal diseases;
- objectively assess the state of the gastrointestinal tract and identify the main symptoms of intestinal lesions;
- identify the group of nosologies for differential diagnosis;
- outline a plan of examination of a patient with gastrointestinal lesions;
- interpret the results of the examination;
- prescribe an adequate therapy for a patient with inflammatory bowel disease;
- draw up a plan of dispensary observation.

know:

- methods of objective (palpation, percussion, auscultation) and additional (measuring, laboratory, instrumental, histological, immunological, etc.) examination;

- communication skills with patients of different ages and their parents, medical staff.

Motivation for learning the topic:

- Obtained knowledge and skills during the study of the discipline of pediatrics allows to motivate students to improve theoretical and practical knowledge to implement early diagnosis, treatment and dispensary supervision of children with chronic inflammatory bowel diseases.

MATERIAL EQUIPMENT

Tables on the topic of the lesson, medical records of inpatients, set of haemograms, haemostasiograms, biochemical blood tests, urine tests, EFGDS conclusions, FBS, ultrasound of internal organs, tonometers, phonendoscopes, scales, stadiometer; task bank for independent work; selection of case studies of pediatric department #4 of the hospital.

CONTROL QUESTIONS FROM RELATED DISCIPLINES

1. "Microbiology:

- . Characterisation of Helikobacter pylori;

2. "Normal Physiology":

- Interpretation of normal constants in the age aspect;
- The secretion of gastrointestinal enzymes;
- Stages of breakdown of major food ingredients in the digestive tract.

3. "Pathological Physiology":

- Pathomorphological changes of gastrointestinal mucosa in inflammatory intestinal diseases.

4. "Pharmacology":

- Classification of antimicrobial drugs;
- Mechanism of action, side effects of 5-aminosalicylic acid drugs, glucocorticosteroids, cytostatics.

5. "Propaedeutics of Internal Medicine".

- Mechanisms of major pathological syndromes (pain, dyspeptic, asthenoneurotic, anaemic).

6. "Internal Medicine:

- Schemes of anti-chelobacter therapy

7. "Infectious Diseases":

- Diseases with abdominal syndrome.

8. "Surgical diseases":

- Differential diagnosis of internal organ haemorrhage.

CONTROL QUESTIONS ON THE TOPIC OF THE CLASS

1. Definition and epidemiology of chronic inflammatory bowel disease.

2. Etiology, pathogenesis, pathomorphology of chronic inflammatory bowel diseases.

3. Intestinal and extraintestinal manifestations of chronic inflammatory bowel diseases.

4.Complications of chronic inflammatory bowel diseases.

5. Classification of ulcerative colitis and Crohn's disease.

6. Criteria of activity of ulcerative colitis and Crohn's disease.

7. Differential diagnosis of inflammatory bowel disease.

8. Basal therapy of chronic inflammatory bowel disease. Indications for surgical treatment.

PROCESS OF THE SESSION

Theoretical Part

Chronic inflammatory bowel diseases, which include ulcerative colitis and Crohn's disease, are one of the serious problems of gastroenterology. By severity of course and frequency of complications they occupy one of the leading positions in structure of diseases of digestive system.

In recent years there has been an increase in inflammatory bowel disease in both adults and children worldwide. These diseases occur at a young age, in 10-15% of cases they have a similar clinical picture and are accompanied by severe complications which can lead to disability.

Chronic inflammatory bowel disease is morphologically characterised by non-specific immune inflammation of the intestinal wall, superficial in ulcerative colitis and transmural in Crohn's disease. In ulcerative colitis, diffuse inflammation is localized within the mucosa and affects only the colon at different distances, whereas in Crohn's disease, all organs of the digestive tract from the oral cavity to the anal canal are involved in the pathological process.

The prevalence of ulcerative colitis in children is 3.4 cases per 100,000 children. Frequency of Crohn's disease in Russia is 10 cases per 100,000 of population, with 20-25% of children having manifestation of the disease. The ratio of Crohn's disease to ulcerative colitis is 1:1.5 - 1:2, but in recent years there has been an increase in cases of Crohn's disease.

The foregoing makes it necessary for every physician to be familiar with this group of diseases.[8]

Practical part

The students are instructed, attention is paid to the internal regulations, peculiarities of work in paediatric department ¹4 (profile gastroenterological). The selection of patients is carried out in accordance with the theme of the lesson. During practical work the student must carry out:

- collection of complaints and anamnesis of the disease,
- perform the clinical examination of the child,
- make a preliminary diagnosis and develop a plan of examination,
- Interpret the results of the laboratory and instrumental methods of investigation,
- Formulation of the final clinical diagnosis,
- Formulation of a treatment and follow-up plan
- prescription of medicines.

Monitoring the learning of the topic

1. Demonstration of case studies with clinical case studies:

- Ulcerative colitis,
- Crohn's disease,
- Chronic constipation,
- Autonomic dysfunction: IBS.

2. analysis of FBC protocols, pathohistological findings of mucosal biopsy specimens from different parts of the intestine.

- 3. Solution of situational tasks

Task №. 1

An 11-year-old girl has been admitted to the paediatric department of a children's hospital with complaints of infrequent abdominal pain, nausea, decreased appetite, increased fatigue and decreased body weight. The patient had been ill for a year. Heredity was not aggravated. Allergoanamnesis: dairy intolerance in early childhood. Presented to an endocrinologist for AIT.

On examination: Regular build, undernourished. Skin clean, pale. Pharynx - mucosa clear, moist. Tongue was dry and covered with white plaque. Auscultation: vesicular breathing in the lungs, BP 20 rpm; heart sounds loud, regular rhythm, heart rate 88 beats per minute, BP 110/70 mm Hg. The abdomen is soft, painful on palpation in the perineal area. The liver at the edge of the rib cusp, spleen is not palpable. Urination is not disturbed. Daily stools up to 3 times, clear or mushy, with mucus.

Blood count: Er. - 3.6x1012/l, Hb -101 g/l, CP - 0.84, reticulocytes - 4%o, L - 9.8x109/l (b-1%, e-6%, n-8%, s-36%, l-44%, m-5%), platelets 200x109/l, sed rate - 37 mm/hr.

Blood water: yellow, clear, acidic, protein - 0.033 g/l, glucose - negative, squamous epithelium - single in n/a, leukocytes - 1-2 in n/a.

Stool analysis for helminth eggs, giardia cysts - not detected.

Questions:

1. What is your supposed diagnosis?
2. Differential diagnosis.
3. Draw up an examination plan.
4. What changes detected in the laboratory and instrumental examinations will confirm your diagnosis?
5. Make a treatment plan (write prescriptions for the suggested medicines).

Task №2.

A boy, 1 year 8 months old, is admitted to the pediatric department of a children's hospital. His mother complains of restlessness (associates it with abdominal pain), loose stools, refusal to eat, lack of weight gain. Heredity: maternal grandfather had died of bowel cancer. Allergoanamnesis: Atopic dermatitis since 6 months of age.

On examination: correct physique, undernourished. Body temperature 37.2°C. The skin was pale and dry. The elasticity of the skin is reduced, the turgor of the soft tissues is reduced. Tongue was dry and covered with white plaque. On auscultation:

vesicular breathing in the lungs, BP 28 per min; heart tones loud, regular rhythm, heart rate 124 beats per minute, systolic murmur at the apex, at the 5th point. BP 90/50 mmHg. The abdomen is "obstructed" by deep palpation, responding painfully to palpation in the perineal, left iliac area. Liver +2 cm, spleen not palpable. Urination is not disturbed. Stools daily up to 10 times a day (for the last week), thin, with blood and mucus.

Blood count: Er. - Blood count was 3.4×1012/l, Hb-95 g/l, CP - 0.84, reticulocytes - 4‰, L - 14.3×109/l (b-0%, e-7%, n-10%, s-47%, l-30%, m-6%), platelets 200×109/l, sed rate - 32 mm/hr.

UEM: yellow, clear, acidic, protein - negative, glucose - negative, squamous epithelium - single in n/a, leukocytes - 0-1 in n/a.

Bacteriological analysis of stool - negative.

Questions:

1. What is your supposed diagnosis?
2. Differential diagnosis.
3. Draw up an examination plan.
4. What changes detected in the laboratory and instrumental examinations will confirm your diagnosis?
5. Draw up a treatment plan (write prescriptions for suggested medicines).

GUIDELINES FOR ORGANISING AND CARRYING OUT COURSEWORK

The time allocated for independent work is used by students for:

- working through the topics (issues) assigned for independent study;
- problem solving;
- research and creative assignments;
- preparing thematic reports, presentations;
- completing practical assignments;
- designing information and demonstration materials (stands, posters, charts, tables, newspapers, etc.)
- compilation of thematic selection of literary sources, internet sources;
- being on-call at health care organisations;
- reviewing scientific literature on the issues of the class;
- preparing discussions with patients on the prevention of gastrointestinal diseases and the formation of a healthy lifestyle;
- drawing up situational tasks on the topic of the lesson.

The main methods for organizing independent work:

- making a report;
- study of topics and problems not covered in the classroom;
- preparation and participation in active forms of learning.

The list of SIWtasks:

- study of clinical guidelines (examination and treatment protocols for children) on the pathology of the gastrointestinal tract;
- Case studies on the topic of the class:

ulcerative colitis,

Crohn's disease,
chronic constipation,
vegetative dysfunction (IBS);
- write prescriptions for the main groups of drugs used in gastroenterology;
- doing research work on the topic of the class.

GUIDELINES FOR THE ORGANISATION AND EXECUTION OF THE USRS

The recommended forms of GSSS organisation are:

1. preparation of abstracts on the proposed topics;
2. solving case studies on the theme of the class;
3. tests on the subject of the lesson.

List of GSSS tasks:

1.Prepare an abstract on the proposed topic:
- Congenital malformations of the gastrointestinal tract.
- Barrett's oesophagus.

2. Solution of situational problems:

Task № 1

A 17-year-old girl has been admitted to the paediatric department of a children's hospital complaining of severe abdominal pain, more often in the morning, thin stools, with no pain after defecation. She had been ill for six months. There was no heredity. Allergy history is normal. Emotionally labile.

Examination: Regular build, satisfactory nutrition. Her skin was clean and of normal colour. Pharynx - mucosa clean and moist. Tongue was moist and clean. On auscultation: vesicular breathing in the lungs, BP 18 per min; heart tones loud, regular rhythm, heart rate 78 beats per minute, BP 110/70 mm Hg. The abdomen is soft, painful on palpation in the perineal area. The liver at the edge of the rib cusp, spleen is not palpable. Urination is not disturbed. Daily stools up to 4 times within an hour after awakening, clear or mushy, without pathological impurities.

Questions:

1. What is your presumptive diagnosis?
2. Differential diagnosis.
3. Draw up an examination plan.
4. What changes detected in the laboratory and instrumental examinations will confirm your diagnosis?
5. Make a treatment plan (write prescriptions for the suggested medicines).

Task № 2

A boy, 14 years old, became acutely ill 2 hours after eating meat patties bought at a street vendor. He had epigastric pain, vomited up to 6 times, body temperature increased to 38.6°C. There were 3 times liquid stools. On examination: lethargic, pale skin. Tongue was thickly covered with white plaque. Heart sounds muffled, heart rate 118 beats per minute. The abdomen was swollen, painful on palpation, a sigmoid colon was identified. He urinated.

Questions:

1. What is your presumptive diagnosis?
2. Differential diagnosis.
3. Draw up an examination plan.
4. What changes detected in the laboratory and instrumental examinations will confirm your diagnosis?
5. Make a treatment plan (write prescriptions for the suggested medicines).

Task №3.

A 4-year-old boy consulted his local pediatrician with complaints of stool delay up to 5 days. Appetite is reduced. Before defecation he complained of abdominal pain, anxiety, "afraid of the potty". Past medical history: from the age of 3.5 years he started going to kindergarten. From the diseases: Acute respiratory infections infrequent. The heredity was not aggravated, his allergy history had no features.

Questions:

1. What is your presumptive diagnosis?
2. Differential diagnosis.
3. Draw up an examination plan.
4. What changes detected in the laboratory and instrumental examinations will confirm your diagnosis?
5. Draw up a treatment plan (write prescriptions for suggested medicines).

Task №4

A 6-year-old girl presented to the children's hospital emergency room with complaints of abdominal pain without clear localization, refusal to eat, restlessness for 2 hours after returning from school.

On examination: Regular build, satisfactory nutrition, answered questions adequately. The skin was clean, normal coloring, pharynx without features, tongue moist, moderately covered with white plaque at the root. Lungs, heart without any peculiarities. Abdomen of usual shape, not swollen, palpable, painful in epigastric and perianal area. The liver and spleen are not enlarged. Urination was not disturbed. The stool was in the morning, clear, without pathological impurities.

Questions:

1. What is your presumptive diagnosis?
2. Differential diagnosis.
3. Draw up an examination plan (what do you need to clarify in collecting your anamnesis?).
4. What changes found in the laboratory-instrumental examinations will confirm your diagnosis?
5. Make a treatment plan (write prescriptions for suggested medicines).

Test control.

1. The development of gastrointestinal diseases is predisposed to:

1. low enzymatic activity of saliva;
2. low enzymatic activity of gastric juice;
3. high permeability of the gastric mucosa;

4. helminthiasis;
5. all of the above.
2. Gastrointestinal diseases most commonly occur at the age of:
1. 5-6 years old;
2. 1-2 years of age;
3. 7-10 years old;
4. 9-12 years old;
5. 14-18 years old.
3. An increase in diseases of the digestive system contributes to:
1. allergic diathesis;
2. hypokinesia;
3. surgical interventions on the gastrointestinal tract;
4. Unbalanced diet in terms of the main food ingredients;
5. artificial feeding in the first year of life;
6. all of the above.
4. Factors of "aggression" in the development of inflammatory diseases of the stomach include:
1. mucus;
2. bile;
3. prostaglandins;
4. motility disorders.
5. Factors contributing to the development of diseases of the stomach and duodenum include:
1. irrational use of medications;
2. diseases of the cardiovascular system;
3. diseases of the endocrine system;
4. chronic infections;
5. psycho-emotional stress;
6. all of the above.
6. Methods of diagnosis of Helicobacter pylori include:
1. bacterioscopy;
2. respiratory;
3. excretory;
4. glucose tolerant;
5. all of the above.
7. The methods of diagnosis of diseases of the stomach and duodenum include:
1. FGDS with targeted biopsy of gastric and 12 duodenal mucosa;
2. Ultrasound of the stomach and duodenum;
3. glucose tolerance test;
4. general blood analysis.
8. What gastric juice pH values are characteristic of a newborn baby?
1. 1,5-2,0;
2. 2,0-3,0;
3. 3,0-4,0;
4. 5,0-6,0.

9. When performing fractional gastric probing, a test breakfast may be used:
1. meat broth;
2. gastrin; 2;
3. trypsin;
4. pentagastrin;
5. histamine;
6. chymosin.
10. The main means of basic therapy for peptic ulcer disease are:
1. diet therapy;
2. vitamins;
3. antacids;
4. analgesics;
5. physiotherapy.
11. List the drugs that act on Helicobacter pylori:
1. venter;
2. phospholugel;
3. de-nol;
4. omeprazole;
5. amoxicillin;
6. motilium.

Answers: 1-5; 2-1,4; 3-6; 4-2,4; 5-6; 6-1,2; 7-1,2; 8-4; 9-1,4,5; 10-1,3,4; 11-3,4,5.

Forms of GSSS performance control:
1. checking and evaluating the abstract on the given topic;
2. checking and evaluating of correctness of solving situation tasks;
3. test control.

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ELECTRONIC DATABASES

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