Ministry of health of Ukraine
National Pirogov Memorial Medical University

Instructions for station number 1
Clinical situational task on infectious diseases

Objective:

1. To be able to formulate the diagnosis during the most common diseases in children;
2. To be able to interpret the received clinical and laboratory results, taking into account anatomical and physiological features and age standards;
3. Be able to determine different clinical variants and complications during the most common infectious diseases of childhood, as well as to diagnose conditions that life threaten for the child;
4. To provide emergency assistance in major emergency situations.

Equipment of the station:

1. Task
2. Table
3. Chair
4. Pen
5. Sheet of paper A4
6. Computer

List of situations: various somatic pathologies of childhood: measles, diphtheria, whooping cough, chicken pox, influenza, meningococcal infection, epidemic parotitis, rubella, poliomyelitis, viral hepatitis, scarlet fever.

Task №1

A 10-month child fell seriously ill: chill, the body temperature increased to $39,8^0$C, restlessness. Examination: the skin of the buttocks and lower extremities are covered by hemorrhagic rash of a stellate form with different diameters with necrosis in the centre.

The signs of meningeal irritation (stiff neck, Brudzinski's signs, Kernig's sign) are negative.

Answer the questions:

1. Formulate the diagnosis according to the classification.
2. What laboratory methods of diagnostics can help to confirm the diagnosis?
3. What antibiotic is contraindicated for this disease? Why?
4. Is there a specific prophylaxis of the disease?

Task № 2

A 5-year-old girl has the body temperature 37,6 ° C, fine maculopapular rash on the extensor surfaces of the limbs, the buttocks.
During the examination, increasing in the posterior and occipital lymph nodes was found. No changes were found on the internal organs.

Answer the questions:

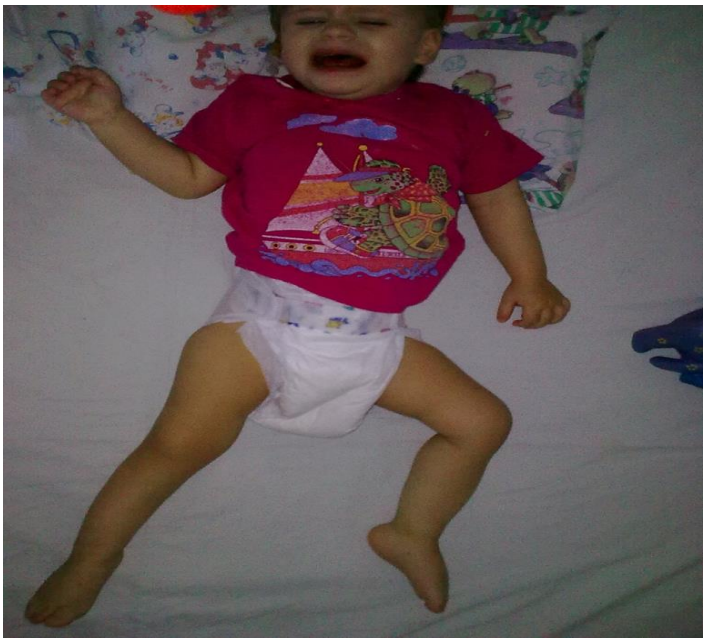
1. Formulate a preliminary diagnosis according to the classification.

2. What are the methods of laboratory diagnostics confirm the diagnosis?

3. What is the symptom complex (Triad Gregg) of congenital pathology in this disease?

4. Specify the terms and preparations for the specific prevention of this infection.

Task № 3



A three-year girl (not vaccinated) the body temperature increased to 39,0 ° C. The back pain appeared after 2 days of illness. In the morning of the 4th day, the girl complained of the pain in her right leg ceased to stand on the leg.

The examination revealed movement limitation, decreased muscle tones, absence of tendon reflexes in the right leg; sensitivity is preserved.

Answer the questions:

1. Formulate a preliminary diagnosis.

2. What clinical forms of the infection do you know?

3 Add laboratory diagnostic methods to confirm the disease etiology.

4. Specify the terms and preparations for the specific prevention of this infection.

Task №4

A 12-year-old boy complains of high temperature 38-39^{O}C, headache and abdominal pain. Rash appeared on the 4th day of disease. The face, neck, hands, feet are edematous and cyanotic. Pharynx is slightly hyperemic. “Raspberry tongue” is observed. Liver + 3,5 cm and spleen + 1 cm are protruded from the ribs.

Answer the questions:

1. What is the preliminary diagnosis according to the classification?
2. Which main clinical forms of the disease do you know?
3. What are the laboratory diagnostic methods made possible to confirm the diagnosis?
4. Name the groups of drugs intended to etiology treatment.

Task №5

A 3-month baby was admitted to the hospital with mother's complaints of increasing body temperature to 39.50 C, vomiting 5 times a day, liquid, watery stool of yellow color without pathological admixtures 10 times a day, a running nose, cough. An objective examination: the child's condition is serious, severe symptoms of dehydration, weight loss of 12%, bloating, rumbling in the intestine. Biochemical blood test is presented in the table.

Indexes	Reference values	Value
Potassium (K^+) mmol / l	3.3 - 5.5	4.4
Sodium (Na^+) mmol / l	136 - 145	136
Chloride (Cl^-) mmol / l	98 - 107	98

Answer the questions:

1. What is the preliminary diagnosis according to the classification?
2. Which laboratory methods can confirm the diagnosis?
3. Pathogenic type of diarrhea. Features of feeding.
4. What are specific methods of prevention of this infection and which drugs can be used for active immunization?

Task №6

A 7-year-old child is suffering for the 8th day with the presence of vesicular rash mainly on the skin of the trunk, scalp.

There is a remarkable rise in body temperature and a deterioration of the general condition. He complains of severe headache and vomiting.

During the examination: revealed ataxia, discoordination movements, tremor of the extremities, horizontal nystagmus. The boy is unstable in the Romberg position, misplaced when performing a finger and nose test.

Answer the questions:

1. What is diagnosis according to the classification?

2. What pathological agent caused this disease? What other disease can cause this pathogen?

3. What laboratory methods of diagnostics can help to confirm the diagnosis?

4 What etiological treatment do you know? Administer a dose.

Task №7

A 10-year-old boy has the following complains; fever up to 38.5 ° C, pain when opening his mouth and chewing and an intense headache.

Physical examination: a dough formation in the area of the parotid salivary gland it's contoured and palpated on the right, and meningeal symptoms are present (positive). Cerebral spinal fluid (CSF) analysis shows the following results:

Features	**Norm**	**Patients results**
Color	Colorless	Colorless
Appearance	Transparent	Transparent
Pressure (mmH_2O)	100-180	200
Proteins (g/L)	0.15-0.33	0.33
Sediment samples	Negative	Positive
Glucose (mmol/L)	2.2-3.3	2.6
Chloride (mmol/L)	120-140	128
Cell count (in 1 μL)	3-10 (new born 10-20)	400
Type of cells	Lymphocytes	80% lymphocytes
Bacteria	Negative	Negative

Task №8

A one-year old boy has been admitted to the intensive care unit (ICU) with a serious condition. According to the mother complaints he has been ill for the past 3 days with fever, lack of appetite, repeated vomiting and loose stool.

Physical examination shows the following: the child is lethargic, passive, pale skin, dry mucous membranes, reduced tissue turgor, eyes deeply sunken. Decrease body weight of 12 %. Hepatosplenomegaly. The stool is liquid, greenish, with mucus.

Answer the questions:

1. What is diagnosis according to the classification?
2. Specify the source of the infection.
3. What laboratory methods of diagnostics can help to confirm the diagnosis?
4. Describe the changes shown in the picture.

Task № 9

A 5-year old girl attending kindergarten became ill acutely, with an increased body temperature up to 38.5 ºC, abdominal pain, liquid consistency scanty stools with mucus and blood.

Physical examination shows the following: temperature is 38.7 ºC, pulse 120/ min, respiration rate 32/ min. The condition of the child is severe, sluggish, pale skin. The tongue is wet, coated with gray plaque. The abdomen is soft; the sigmoid colon is cramped and painful on palpation.

Answer the questions:

1. What is diagnosis according to the classification?
2. What type of diarrhea does this patient have?
3. What possible local complication (list them) can be present in this infection?
4. Specify the drugs for etiological treatment.

Task №10

A 5-year-old boy complains of pain during opening and chewing and grasping abdominal pain.
Objectively: the parotid salivary gland is enlarged to the right, positive Filatov's symptom, as well as the infiltrated hole of the Steno’s duct on the right. Urine diastase 512 units. (Norm 16 - 64 units).

Answer the questions:

1. Formulate a diagnosis according to the classification.

2. What organs and systems are affected in this case?

3. What laboratory methods of diagnostics can help to confirm the diagnosis?

5. What is the specific prevention of this disease and its terms?

Task №11

During outbreaks of winter an eight-year-old girl complained of: body temperature increasing to 39.5 ° C, intense headache, a running nose, chills, dry cough, aching pain in the muscles.

Objectively: vascular injection of sclera and conjunctiva (see Photo), sneezing and a sore throat. Lymph nodes are not enlarged.

The mother and older sister were observed with similar symptoms.

Answer the questions:

1. Formulate a diagnosis according to the classification.
2. What laboratory methods should be assigned to clarify the disease etiology?
3. Specify the drugs for etiological treatment.
4. What is the specific prevention of this disease and its terms?

Task №12

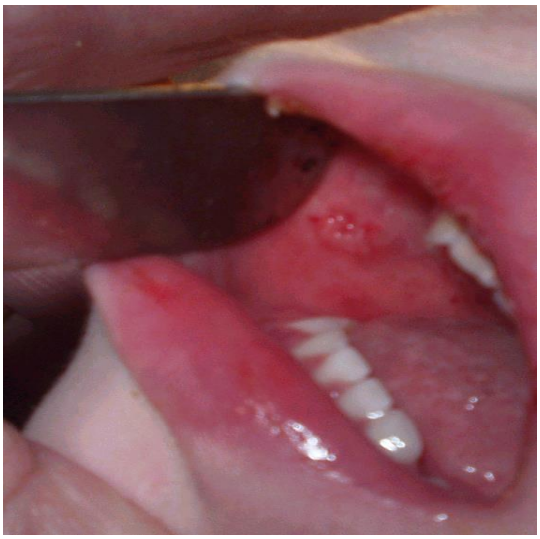


Photo 1.

Photo 2.

A 7-year-old child (not vaccinated) was admitted to the hospital with complaints of fever to 38,9^{0}C, dry cough, serous nasal discharge, conjunctivitis and photophobia, rash (photo 2).

During the objective examination, a maculopapular rash was visualized behind the ears, on the face, the lateral surface of the neck, trunk. Some elements were confluent. The changes in the mucous membrane of the oral cavity, shown in the photo.

Answer the questions:

1. Formulate a diagnosis according to the classification?

2. What is the pathognomonic symptom shown in the photo? When does this symptom appear?

3. What are the laboratory diagnostic methods used to verify the diagnosis?

4. What is the specific prevention of this disease and its terms?

Task №13

Photo1.

Photo 2.

A six-year-old child complains of fever (T - 38.9 °C), headache, a sore throat and a skin rash.

Physical examination: the mucous membrane of the oropharynx is brightly hyperemic, whitish coating on the tonsils are observed. Submandibular lymphatic nodes are enlarged, tender. The rash consists of fine erythematous punctate eruption, more prominent in flexural areas (axillae, popliteal fossae, inguinal folds). The liver and spleen are not enlarged.

Answer the questions:

1. What is the diagnosis?

2. What laboratory methods can help confirm the diagnosis?

3. What is shown on Photo 1? What symptom is shown on Photo 2?

4. What pathogen causes this disease? Prescribe etiological treatment for this disease.

Task №14

Photo. 1 **Photo. 2**

A 10-year-old child has been ill for six days. The disease began with the appearance of swelling of mandibular angle dough-consistency, painful on palpation. He is complaining of pain during mouth opening and chewing.

Physical examination: on the left side dough-consistency formation is contoured and palpated.

Answer the questions:

1. Formulate the diagnosis according to the classification.

2. What is shown on Photo 1? What is shown on Photo 2?

3. What laboratory methods can help to confirm the diagnosis?

4. What is the specific prevention of this disease? When?

Task №15

A 10-years-old patient is complaining of yellow skin and sclera. Fell ill acutely, fever (T- 38.3 º C), decreased appetite, there was recurrent vomiting. On the 5th day from the onset of the disease, jaundice appeared, feces became pale, urine dark. On the 7th day with the appearance of jaundice, the child's condition improved.

Physical examination: mild hepatomegaly and right upper quadrant tenderness. For the last 6 months there were no parenteral interventions.

Answer the questions:

1. Formulate the diagnosis according to the classification.

2. What laboratory methods can help to confirm the diagnosis?

3. Describe the image on the photo.

4. What is the specific prevention of this disease? Specify the drug for specific prophylaxis.