

SUMY STATE UNIVERSITY

APPROVED

EXAMINATION TASK

of Objective Structured Clinical Examination (OSCE) of State Final Certification
in Education and Qualification Level "Specialist"
in the Specialty 7.1201000 "General Medicine"

Discipline "Internal, Occupational and Infectious Diseases"

Variant No. 1

Station 1

A 42-year-old man complains of fever 38.2 °C over the 5-day period, productive cough with yellowish sputum, left-sided chest pain, generalized weakness. There was no therapeutic effect after taking antipyretics. The patient didn't display an allergy to any medications. The patient denies concomitant diseases. He didn't receive any antibiotic treatment in the last three months.

The patient's general state is relatively satisfactory. On auscultation, crepitus is heard over the lower part on the left lung, vesicular breathing with no wheezing over other parts of the lungs. The heart sounds are clear, of a normal rhythm, heart rate is 78 bpm, BP is 125/85 mmHg. The abdomen is soft and painless in all abdominal regions during palpation. The liver and spleen is not enlarged.

Blood analyze: hemoglobin- 162 g/L, leukocytes - $12.2 \times 10^9/L$, eosinophils-1%, neutrophils - 83%, lymphocytes- 16%, ESR- 24 mm/h.

Chest X-ray: infiltration in the 9-10th segments of the left lung is shown.

Questions:

1. Offer a preliminary diagnosis.
2. Differential diagnosis.
3. Determine a treatment plan and list classes of medicine.
4. Provide examples of medication from each class.
5. Indicate the dosage and dosage regimen.

Head of Department
of Internal Medicine
with the Center of respiratory medicine

Lyudmyla PRYSTUPA

AGREED BY:

Director of Medical Institute

Andriy LOBODA

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Variant No. 2

Station 1

A 53-year-old woman sought medical help for attack of dyspnoea 2-3 times a day shortness of breath after physical activities, slightly productive cough, chest discomfort. Symptoms of disease appeared after pneumonia 12 years ago. Attacks recur after physical activities and at night. Salbutamol was used 3-4 times a day to alleviate these attacks. The patient claims she has never had any known allergic diseases or bad habits.

The condition is satisfactory, consciousness is clear. Skin and mucosa is clear and of usual color. Lymph nodes are not enlarged. Tympanic sound is heard in percussion, wheezing and coarse breathe – in auscultation. The respiratory rate is 20 per min. The heart sounds are muffled, of a normal rhythm. BP-135/90 mmHg, heart rate is 72 bpm. The abdomen is soft and painless. The liver and spleen is not palpable. Defecation is usual.

Blood analyze: hemoglobin- 122 g/L, erythrocytes- 4.2×10^{12} / L, leukocytes - 9.2×10^9 /L, band neutrophils - 4%, segmented neutrophils - 62%, eosinophils - 4%, monocytes - 5%, lymphocytes- 25%, ESR - 18 mm/h.

ACQ-5 score is 1.2.

Chest x-ray shows low attenuation pattern, increased pulmonary vascularity.

Spirometry: FVC- 82%, FEV₁- 69%, daily PEF fluctuations > 30%, increase in FEV₁ of 22% after salbutamol inhalation.

Questions:

1. Offer a preliminary diagnosis.
2. Differential diagnosis.
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4. Provide examples of medication from each class.
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Variant No. 3

Station 1

A 26-year-old man reports episodic shortness of breath 4-5 times a month, difficulty exhale, slightly productive cough with sibilant rales. From the medical history: attacks were observed over the past year; being provoked by exposure to dust, pollen, fur; relieving independently or after salbutamol inhalation. The patient's grandmother is believed to have suffered from similar attacks.

The patient's general state is satisfactory, the respiratory rate is 20 per min. The skin is clear and of usual color. A lot of dry rales are heard during auscultation while exhaling. The heart sounds are clear, of a normal rhythm; heart rate is 78 bpm, BP-120/85 mmHg. The abdomen is soft and painless during palpation. The liver and spleen are not enlarged.

Blood analyze: leukocytes - $7.8 \times 10^9/L$, segmented neutrophils - 64%, lymphocytes- 22%, eosinophils - 10%, monocytes - 4%, ESR- 8 mm/h.

General sputum analysis: viscous consistency, mucous, leukocytes- 1-5 in sight, eosinophils- 2 -30 in sight, Curschmann's spirals, Charcot-Leyden crystals.

Serum IgE level is three times higher than the norm.

Asthma control questionnaire score is 0.5.

Spirometry: FVC- 86%, FEV₁- 74%, daily PEF fluctuations -20%, increase in FEV₁ of 18 % after salbutamol inhalation. A chest x-ray shows no signs of pulmonary infiltrates.

Questions:

1. Make a preliminary diagnosis.
2. Differential diagnosis.
3. Determine a treatment plan and list classes of medicine.
4. Provide examples of medication from each class.
5. Indicate the dosage and dosage regimen.

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Variant No. 4

Station 1

A 62-year-old man presents to physician office due to productive cough with sputum and shortness of breath after slight physical activities. Cough with sputum has been observed for 10 years. The patient has been smoking a pack of cigarettes a day for 30 years.

Objective examination: the face is puffy, cyanotic, swelling in the veins of the neck. The thorax is barrel-shaped. Tympanic sound is heard over both lungs in percussion. On auscultation: diminished breathing with dry rales above the lungs. The respiratory rate is 23 per minute. The heart sounds are muffled. The emphasized second heart sound is heard over the pulmonary artery, heart rate is 90 bpm, regular, BP – 130/90 mmHg. No peripheral swelling.

Blood analyze: hemoglobin - 168 g/L, leukocytes - $9.1 \times 10^9/L$, eosinophils - 1%, neutrophils - 73%, lymphocytes - 26%, ESR - 10 mm/h.

Chest x-ray shows low attenuation pattern, increased pulmonary vascularity, distorted vascular markings, roots of lungs are expanded, no infiltrative changes.

ECG: sings of right ventricular hypertrophy.

Spirometry: FVC- 79%, FEV₁- 42%, increase in FEV₁ of 4% after salbutamol inhalation.

The assessment of symptoms showed grade 2 in accordance with the Modified medical research council scale and >10 units in accordance with COPD assessment test.

Questions:

1. Make a preliminary diagnosis.
2. Differential diagnosis.
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Variant No. 5

Station 1

A 58-year-old patient complains of fever as high as 39.5 °C, cough with mucopurulent sputum, chest pain when coughing, headaches, weakness in limbs, perspiration. Symptoms appeared after becoming too cold. Concomitant disease: chronic obstructive pulmonary disease.

The skin is pale and moist. The respiratory rate is 20 per min. Heart rate is 100 bpm, BP-110/70 mmHg.

On auscultation: diminished breathing, multiple moist rales are heard over the interior part of right lung by the angle of the right scapula. Heart sounds are diminished, rhythmic, single extrasystole. The abdomen is soft and painless. Other organs and systems show no visible pathological changes.

Blood analyze: hemoglobin - 135 g/L, erythrocytes - $4.7 \times 10^{12}/L$, leukocytes - $13 \times 10^9/L$, ESR - 35 mm/h.

ECG: sinus rhythm, single supraventricular extrasystole.

No focal myocardium changes.

Chest radiography: focal pulmonary infiltration in basal segments of the right lung, distortion of the root of the right lung.

Questions:

1. Make a preliminary diagnosis.
2. Differential diagnosis.
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Variant No. 6

Station 1

Station «Situational tasks»

A 66 years old man addressed to the doctor with complains of a general weakness, decreased appetite, heaviness in the epigastrium, shortness of breath at rest, weakness and pain in the lower extremities, burning in the tongue. He considers himself ill within 2 months when shortness of breath, pain, and numbness appeared.

Objective: skin and visible mucous are pale, icteric sclera, glossitis. There are no hemorrhages. Peripheral lymph nodes are not enlarged. Above the lungs there is a clear percussion sound, in auscultation – vesicular breathing, respiratory rate –18 / min. At auscultation of the heart the tones are rhythmic, heart rate 84 / min, blood pressure 130/80 mm Hg. Abdomen is soft, painless. Liver, spleen is not enlarged. Edema on the lower extremities.

Fibrogastroduodenoscopy: atrophic gastritis. The test for *H. pylori* is positive.

Clinical blood test:

Indicators \ Units	Normal level	Patient level
Hemoglobin	Female: 120–140 g/l	69 g/l
	Male: 130–160 g/l	
Red blood cells	Female: 3,7–4,7x10 ¹² /l	1,95x10 ¹² /l
	Male: 4,0–5,0x10 ¹² /l	
Mean corpuscular volume, MCV	80–100 fl	115 fl
Mean corpuscular hemoglobin, MCH	27–35 pg	39,1 pg
<i>Erythrocyte sedimentation rate, ESR</i>	Female: 2–15 mm/h	11 mm/h
	Male: 1–10 mm/h	
White blood cells	4–9x10 ⁹ /l	2,9x10 ⁹ /l
Platelets	180–320x10 ⁹ /l	111x10 ⁹ /l
<i>Leukocyte formula</i>		
blasts	0 %	0 %
myelocytes	0 %	0 %
young cells	0 %	0 %

banded neutrophils	1–5 %	3 %
segmented neutrophils	47–72 %	64 %
1	2	3
<u>basophils</u>	0,5–1 %	0 %
<u>eosinophils</u>	1–5 %	1 %
<u>lymphocytes</u>	18–38 %	28 %
<u>monocytes</u>	3–11 %	4 %
Biochemical parameters		
Vitamin B12	170–900 pg/ml	51 pg/ml
Ferritin	Female: 13,0–150,0 ng/ml Male: 30,0–400,0 ng/ml	89 ng / ml

Sternal puncture was performed. Results of myelogram count:

Myelogram		Normal level	Patient level
Neutrophils	blasts	0,1–1,1%	0,5%
	<u>promyelocytes</u>	0%	2%
	<u>myelocytes</u>	8,25%	37%
	<u>metamyelocytes</u>	1,5%	10,5%
	banded neutrophils	13%	15%
	segmented neutrophils	21%	20,5%
<u>eosinophils</u>		0,5–5,8%	4%
<u>basophils</u>		0,0–0,5%	0,25%
erythroblasts		0,2–1,1%	3,25%
pronormocytes		0,1–1,2%	3,5%
Normocytes	basophilic	5%	0%
	polychromatophilic	12,5%	1%
	oxyphilic	4,5%	0,5%
megaloblasts		0%	15%
<u>lymphocytes</u>		4,3–13,7%	5,75%
plasmocytes		0,1–1,8 %	0,5%
monocytes		0,7–3,1%	1,5%
<i>leuko/erythro ratio</i>		(3,5–4:1,0)	1,3:1
megakaryocytes		functional	functional

Questions:

1. Make a preliminary diagnosis.
2. With what diseases it is necessary to carry out differential diagnostics.
3. Identify treatment tactics and list groups of drugs.
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Variant No. 7

Station 1

A 18 years old man went to the emergency room for bleeding after tooth extraction. The tight bandage did not stop the bleeding. The patient notes the easy appearance of bruises. According to her mother, her father had similar problems when wisdom teeth were removed, bruising and arthropathy could easily appear. The patient is not taking medication. Physical examination revealed hemorrhagic syndrome of hematoma type. Body weight 60 kg, height 164 cm. Laboratory studies:

Indicators \ Units	Normal level	Patient level
Hemoglobin	Female: 120–140 g/l	132 g/l
	Male: 130–160 g/l	
Red blood cells	Female: 3,7–4,7x10 ¹² /l	4,4x10 ¹² /l
	Male: 4,0–5,0x10 ¹² /l	
Mean corpuscular volume, MCV	80–100 fl	82 fl
Mean corpuscular hemoglobin, MCH	27–35 pg	28 pg
<i>Erythrocyte sedimentation rate, ESR</i>	Female: 2–15 mm/h	9 mm/h
	Male: 1–10 mm/h	
White blood cells	4–9x10 ⁹ /l	8,0x10 ⁹ /l
Platelets	180–320x10 ⁹ /l	220x10 ⁹ /l
<i>Leukocyte formula</i>		
blasts	0 %	0 %
<u>myelocytes</u>	0 %	0 %
young cells	0 %	0 %
banded neutrophils	1–5 %	4 %
segmented neutrophils	47–72 %	54 %
<u>basophils</u>	0,5–1 %	1 %
<u>eosinophils</u>	1–5 %	2 %
<u>lymphocytes</u>	18–38 %	34 %
<u>monocytes</u>	3–11 %	5 %

Coagulogram		
Prothrombin time	9,8–12,1 sec	11 sec
Activated Partial Thromboplastin Time, APTT	22–32 sec	60 sec
D–dimer	< 0,5 FEU/ml	0,3 FEU/ml

Level of factors: FVIII – 10%, FIX – 90%, FII – 92%, Inhibitory antibodies to FVIII are absent.

Questions:

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Variant No. 8

Station 1

A 43 years old woman came to a cardiologist because of an increase in blood pressure, a frequent hypertensive crisis. Complaints: general weakness, redness of the skin of the face, neck, palms of hands, periodic headache, itching of the skin, which is exacerbated after contact with water.

Objectively: general condition is satisfactory. The skin and visible mucous are hyperemic. There are no hemorrhages. Peripheral lymph nodes are not enlarged. Auscultation of the lungs – vesicular breathing, respiratory rate – 16 / min. The heart boundaries are not expanded. At auscultation of the heart tones are rhythmic, heart rate 78 / min, blood pressure 140/90 mm Hg. Abdomen is soft, painless. The liver is not enlarged, the spleen + 3 cm. There is no edema.

The patient's blood test revealed:

Indicators \ Units	Normal level	Patient level
Hemoglobin	Female: 120–140 g/l	183 g/l
	Male: 130–160 g/l	
Red blood cells	Female: 3,7–4,7x10 ¹² /l	6,2x10 ¹² /l
	Male: 4,0–5,0x10 ¹² /l	
Hematocrit	Female: 36–46 %	64 %
	Male: 41–51%	
Mean corpuscular hemoglobin, MCH	27–35 pg	34,5 pg
<i>Erythrocyte sedimentation rate, ESR</i>	Female: 2–15 mm/h	1 mm/h
	Male: 1–10 mm/h	
White blood cells	4–9x10 ⁹ /l	12x10 ⁹ /l
Platelets	180–320x10 ⁹ /l	728x10 ⁹ /l
<i>Leukocyte formula</i>		
blasts	0 %	0 %
<u>myelocytes</u>	0 %	0 %
young cells	0 %	0 %
banded neutrophils	1–5 %	3 %

1	2	3
segmented neutrophils	47–72 %	63 %
<u>basophils</u>	0,5–1 %	0 %
<u>eosinophils</u>	1–5 %	0 %
<u>lymphocytes</u>	18–38 %	38 %
<u>monocytes</u>	3–11 %	2 %
Biochemical parameters		
Erythropoietin	4,3–29 mU/mL	2,61 mU/mL

Bone marrow trepanobiopsy was performed.

Results of histological examination:

The *leuko/erythro ratio*: 8 : 1 (normal 3.5 – 4 : 1).

Size of myeloid colonies: enlarged.

Dimensions of erythroid colonies: enlarged.

The number of megakaryocytes is approximately 12–15 in vision area of large magnification.

JAK2 mutation is positive.

Question:

1. Make a preliminary diagnosis.
2. With what diseases it is necessary to carry out differential diagnostics.
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Variant No. 9

Station 1

A 54 years old man complains of general weakness, dizziness, pain in the thoracic and lumbar spine, which is exacerbated by movement. Objective data. The skin is pale. The thyroid gland is not enlarged. Pulse – 84 per 1 minute, rhythmic. Blood pressure – 130/85 mm Hg. Heart tones are rhythmic. In the lungs – vesicular breathing. The abdomen is soft, not painful.

The patient's blood test revealed:

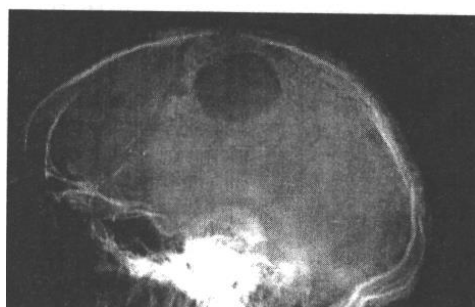
Indicators \ Units	Normal level	Patient level
Hemoglobin	Female: 120–140 g/l	81 g/l
	Male: 130–160 g/l	
Red blood cells	Female: 3,7–4,7x10 ¹² /l	2,4x10 ¹² /l
	Male: 4,0–5,0x10 ¹² /l	
Mean corpuscular volume, MCV	80–100 fl	92 fl
Mean corpuscular hemoglobin, MCH	27–35 pg	34,5 pg
<i>Erythrocyte sedimentation rate, ESR</i>	Female: 2–15 mm/h	84 mm/h
	Male: 1–10 mm/h	
White blood cells	4–9x10 ⁹ /l	5,2x10 ⁹ /l
Platelets	180–320x10 ⁹ /l	182x10 ⁹ /l
<i>Leukocyte formula</i>		
blasts	0 %	0 %
<u>myelocytes</u>	0 %	0 %
young cells	0 %	0 %
banded neutrophils	1–5 %	3 %
segmented neutrophils	47–72 %	60 %
<u>basophils</u>	0,5–1 %	1 %
<u>eosinophils</u>	1–5 %	2 %
<u>lymphocytes</u>	18–38 %	28 %
<u>monocytes</u>	3–11 %	7 %

Biochemical parameters		
Protein	66–87 g/l	106 г/л
Creatitin	62–106 μmol/l	64 μmol/l
Calcium	2,15–2,5 mmol/l	4,2 mmol/l

Electrophoresis of blood and urine proteins revealed an M–paraprotein gradient.

Urine analysis: gravity – 1,019, protein–1,2 g / l, erythrocytes – 3–4 in vision area, leukocytes – 0–5 in vision area.

The radiography of the bones is shown.



Sternal puncture was performed. Results of myelogram count:

Myelogram		Normal level	Patient level
blasts		0,1–1,1%	0%
Neutrophils	<u>promyelocytes</u>	0,4%	2%
	<u>myelocytes</u>	1%	37%
	<u>metamyelocytes</u>	0,8%	10,5%
	banded neutrophils	1%	15%
	segmented neutrophils	21,2%	20,5%
<u>eosinophils</u>		0,5–5,8%	0,8%
<u>basophils</u>		0,0–0,5%	0,2%
erythroblasts		0,2–1,1%	0,4%
pronormocytes		0,1–1,2%	0%
Normocytes	basophilic	0,2%	0%
	polychromatophilic	1,2%	1%
	oxyphilic	2,0%	0,5%
megaloblasts		0%	0%
<u>lymphocytes</u>		4,3–13,7%	29,4%
plasmocytes		0,1–1,8 %	35,4%
monocytes		0,7–3,1%	6,4%
<i>leuko/erythro ratio</i>		(3,5–4:1,0)	25:1
megakaryocytes		functional	functional

Questions:

1. Make a preliminary diagnosis.
2. With what diseases it is necessary to carry out differential diagnostics.
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Variant No. 10

Station 1

A 18 years old woman came to the doctor complaining of weakness, rapid fatigue, dizziness, tinnitus, shortness of breath and palpitations with slight physical exertion, brittle her nails, hair loss. In additions, he notes the change in taste: likes to eat chalk, likes the smell of paint, gasoline. She considers ill for about 6 months. At first there was weakness, increased fatigue, then dizziness, tinnitus, shortness of breath and palpitations at low physical activity.

Objective data. Paleness of the skin and mucous membranes. The skin is dry, the nails are brittle or with transverse folds. Auscultation of the lungs – vesicular breasing, respiratory rate – 18/min. At auscultation of the heart tones are rhythmic, systolic murmur at the apex, heart rate 88 / min, blood pressure 110/65 mm Hg. Abdomen is soft, painless. Clinical blood test of the patient:

Indicators \ Units	Normal level	Patient level
Hemoglobin	Female: 120–140 g/l	56 g/l
	Male: 130–160 g/l	
Red blood cells	Female: 3,7–4,7x10 ¹² /l	2,75x10 ¹² /l
	Male: 4,0–5,0x10 ¹² /l	
Mean corpuscular volume, MCV	80–100 fl	66 fl
Mean corpuscular hemoglobin, MCH	27–35 pg	22,1 pg
<i>Erythrocyte sedimentation rate, ESR</i>	Female: 2–15 mm/h	7 mm/h
	Male: 1–10 mm/h	
White blood cells	4–9x10 ⁹ /l	7,2x10 ⁹ /l
Platelets	180–320x10 ⁹ /l	248x10 ⁹ /l
<i>Leukocyte formula</i>		
blasts	0 %	0 %
<u>myelocytes</u>	0 %	0 %
young cells	0 %	0 %
banded neutrophils	1–5 %	2 %
segmented neutrophils	47–72 %	61 %
<u>basophils</u>	0,5–1 %	0 %

1	2	3
<u>eosinophils</u>	1–5 %	2 %
<u>lymphocytes</u>	18–38 %	31 %
<u>monocytes</u>	3–11 %	4 %
Біохімічні показники		
Serum iron	5,83–34,5 μmol/l	3,08 μmol/l
Ferritin	Female: 13,0–150,0 ng/ml Male: 30,0–400,0 ng/ml	8,6 ng/ml

ECG: sinus tachycardia.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases it is necessary to carry out differential diagnostics.
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Variant No. 11

Station 1

A patient of 42 years old was hospitalized with complaints of weakness, drowsiness during the day, yellowing of the skin, heaviness in the right hypochondrium, recurrent nasal bleeding, enlargement of the abdomen in volume. The patient denies the use of drugs or alcohol. The patient did not have hemotransfusion, surgery.

Objective examination: a condition of moderate severity. Consciousness is clear. Numbers connection test – 40 sec. (N - up to 30 seconds). Height – 178 cm, weight – 62 kg. The skin and sclera are yellowish. In the area of the chest and upper back can be seen "vascular stars"(telangiectasia). Respiratory, cardiovascular system is without pathology. Tongue is moist, crimson color, papillae smoothed. The abdomen is enlarged in volume, the navel is smoothed, in the anterior abdominal wall radially from the navel are defined enlarged, convoluted veins. On palpation, the abdomen is soft, painful in the right hypochondrium. The size of the liver – 15×15×13 cm by Kurlov. The lower edge of the liver on palpation is dense, hilly. The spleen is enlarged. Urination is free, painless. Stool without pathological impurities.

Complete blood count: RBC – $4,1 \times 10^{12}/l$; Hb – 122 g/l; HCT – 0,38, platelets – $98 \times 10^9/l$, WBC – $3,2 \times 10^9/l$, leukocyte formula: eosinophil – 1%, neutrophil – 67%, lymphocyte – 29%, monocyte – 3%, ESR – 22 mm/hour.

Chemistry panel: total bilirubin - 130 $\mu\text{mol/l}$ (normal up to 21 $\mu\text{mol/l}$), direct bilirubin – 100 $\mu\text{mol/l}$ (normal up to 5 $\mu\text{mol/l}$), ALT – 120 U/l (normal up to 41 U/l), AST – 164 U/l (normal up to 40 U/l), albumin – 28 g/l (normal range – 35 – 52 g/l).

Video esophagogastroduodenoscopy: varicose veins of esophagus stage I.

Ultrasound examination of abdominal organs: enlarged liver, contours are clear and irregular, unevenly diffusely increased echogenicity of parenchyma. Diameter V. portae – 16 mm. Gallbladder of normal size, no concretions. The spleen is enlarged. Ascites.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases is it necessary to carry out differential diagnostics?
3. Identify treatment tactics and list groups of drugs.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 12

Station 1

The 33 years old patient complains of unformed stools with blood up to 8 times a day, abdominal pain before defecation, weight loss by 7 kg for 3 months. From the anamnesis: blood in the stool and unformed stools has been disturbing for 3 months. The temperature did not rise. Contact with infectious patients denies, he did not travel outside the region. The patient had smoked 1 pack of cigarettes a day for 10 years, stopped a year ago. The patient denies alcohol abuse and intravenous drug abuse. The relatives do not have diseases of the gastrointestinal tract. The patient works as a manager, no professional harm.

Objectively: the condition is satisfactory. Body temperature is 36.7°C. The skin is pale, moist. In the lungs vesicular respiration. Respiratory rate – 18/min. In auscultation the rhythm of the heart is regular, the ratio of sounds is normal, there are no murmurs. HR – 98/min. Blood pressure – 110/70 mmHg. On examination, the abdomen is symmetrical, during palpation is soft, painful in the left iliac region. The liver size by Kurlov – 9×8×7 cm. The size of the spleen – 6×4 cm. Urination is free, painless.

Clinical blood test: RBC – $2,7 \times 10^{12}/l$, Hb – 108 g/l, MCV – 65 fl, platelets – $270 \times 10^9/l$, WBC – $7,0 \times 10^9/l$, leukocyte formula: eosinophil – 1%, band neutrophils – 2%, segmented neutrophils – 65%, lymphocyte – 27%, monocytes – 5%, ESR – 22 mm/hour.

Coprogram: feces are liquid, large amount of mucus, leukocytes 10 – 15 in sight, erythrocytes 8 – 10 in sight.

Videocolonoscopy: descending colon, sigmoid and rectum is diffuse-hyperemic, vascular pattern is absent, easily bleeds on contact with colonoscope.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should differential diagnosis be performed?
3. Identify treatment tactics and list groups of drugs.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 13

Station 1

A 39-year-old man complains of aching pain in the epigastric area, occurring 20 to 30 minutes after eating, nausea and periodic vomiting of gastric contents, which occurs at the height of pain and brings relief. From the anamnesis of the disease: for the first time this complaints appeared approximately 6 years ago, patient took almagel and drotaverine hydrochloride. He has not sought medical help previously. The patient notes the spring and autumn exacerbations of the disease.

Worsening of health happened two days ago after drinking alcohol and fried food. The patient works as a taxi driver, eats irregularly, often consumes alcohol. He had been smoking up to 2 packs of cigarettes a day for 20 years. Hereditary history: the father had peptic ulcer.

Objectively: the condition is satisfactory, height – 180 cm, weight – 51 kg. The skin and visible mucous membranes are pale pink. Peripheral lymph nodes are not enlarged. On auscultation vesicular breathing, no wheezing. Respiratory rate – 17/min. Pulse of satisfactory filling and tension, HR – 72 beats/min. Blood pressure – 122/80 mmHg. Heart tones are clear, rhythmic. White plaque on the tongue. Palpation of the abdomen is painful in the epigastric region. The spleen is not enlarged. Stool occurs daily, without pathological impurities.

Clinical blood test: RBC – $4,2 \times 10^{12}/l$, Hb – 130 g/l, platelets – $230 \times 10^9/l$, WBC – $6,5 \times 10^9/l$, leukocyte formula: eosinophil – 1%, band neutrophils – 1%, segmented neutrophils – 60%, lymphocyte – 30%, monocytes – 8%, ESR – 10 mm/hour.

Videosophagogastroduodenoscopy: esophagus is free to pass, mucous membrane is not altered, reflux is absent. Stomach of normal shape and size. The mucous is hyperemic, folds are of the usual form and the size. Superficial ulcer detect of 1 – 1,5 cm with smooth edges was determined in a cardiac on the big curvature. The bottom of ulcer covered with fibrin is defined. Ampoule of the duodenum of normal shape and size, mucous is pale pink. Helicobacter pylori was detected.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should differential diagnosis be performed?
3. Identify treatment tactics and list groups of drugs.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 14

Station 1

A 43-year-old man has gone to the doctor complaining of heartburn, chest pain that appears after eating or exercising, exacerbated in a horizontal position. Heartburn has been worrying for about 10 years. The patient has not been examined before. Chest pain has been worrying 2 month. On examination: satisfactory condition. Body mass index – 39 kg/m². Skin is normal color, clean. In auscultation vesicular breathing, no wheezing. Respiratory rate – 18 beats/min. Heart sounds are clear, rhythmic, HR – 72 beats/min, blood pressure – 120/80 mmHg. the tongue coated with white plaque. On palpation, the abdomen is soft, painless. The liver and spleen are not enlarged.

Clinical blood test: RBC – $3,7 \times 10^{12}/l$, Hb – 128 g/l, platelets – $230 \times 10^9/l$, WBC – $6,1 \times 10^9/l$, leukocyte formula: eosinophil – 1%, band neutrophils – 1%, segmented neutrophils – 60%, lymphocyte – 30%, monocytes – 8%, ESR – 10 mm/hour.

Video esophagogastroduodenoscopy: erosions of more than 5 mm in length, which not coalesce, not extend beyond the folds of the esophagus is found in the lower third of the esophagus. Stomach is of normal shape and size. The mucous is hyperemic, the folds are of the usual shape and size, the presence of bile in the stomach. Ampoule of the duodenum of normal shape and size, mucous is pale pink. Helicobacter pylori was not detected.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should differential diagnosis be performed?
3. Identify treatment tactics and list groups of drugs.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 15

Station 1

A 29 years old patient, complains of permanent pain in the right iliac region that wakens him up at night. Periodically colic pain occurs. Concerns expressed weakness, weight loss, diarrhea (stool 3 - 4 times a day), without pathological impurities. Notes the temperature rise to 37,6°C. Weakness gradually increased, the patient lost 6 kg of body weight during last year.

Objectively: the patient is hypotonic, dry skin, reduced turgor. Peripheral lymph nodes are not palpable. Lungs and heart without pathological changes. Pulse – 80 beats/min, blood pressure – 112/70 mmHg. The tongue is coated with white plaque. The abdomen is involved in breathing, the usual configuration. On palpation, pain in the right lower quadrant, palpable, dense, painful cecum and swollen loops of the small intestine. No other pathological changes were detected. Liver is of normal size. The spleen is not palpable.

Clinical blood test: RBC – $3,2 \times 10^{12}/l$, Hb – 117 g/l, platelets – $210 \times 10^9/l$, WBC – $12,6 \times 10^9/l$, leukocyte formula: eosinophil – 2%, band neutrophils – 10%, segmented neutrophils – 51%, lymphocyte – 37%, ESR – 34 mm/hour.

Chemistry panel: total protein – 52 g/l, albumins – 55%, globulins: alpha – 13.7%, beta – 11.0%, gamma – 20.3%, total bilirubin – 16,4 umol/l, direct bilirubin – 3,1 umol/l, glucose – 5.5 mmol/l, cholesterol – 3.9 mmol/l.

Rectomanoscopy: in the perianal region, scars are defined, in one of them fistulas with scanty discharge. There are single cracks between the scars. Rectum and sigmoid mucous without pathological changes.

Irrigoscopy: barium retrograde fills all parts of a large intestine and an ileal within 15-20 cm. The irregular narrowing of a distal part of an ileum and uneven contours, absence of a haustra in the cecum and ascending intestines are found.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should differential diagnosis be performed?
3. Identify treatment tactics and list groups of drugs.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 16

Station 1

25 years old a woman, complains of abdominal discomfort after defecation, abdominal distension, soft stool up to 3 times a day with mucus, mostly in the morning, occasionally – feeling of incomplete bowel movements, emotional instability, poor sleep, frequent headaches. The above complaints have been worrying for about three years after divorcing her husband.

Objective examination: satisfactory condition. Tongue is moist, clean. The abdomen is slightly enlarged, soft, in palpation the sensitivity of the entire abdomen is determined. Liver is normal size. General analysis of blood, urine, biochemical analysis of blood – without significant changes. Coprological analysis - without significant pathological signs, but there is a large amount of mucus.

Colonoscopy: no pathological changes.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should differential diagnosis be performed?
3. Identify treatment tactics and list groups of drugs.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 17

Station 1

A 47 years old patient, complains of persistent pain in the upper half of the abdomen, aggravated after eating fatty foods, sometimes with irradiation to the back, weight loss. At the age of 40, she underwent cholecystectomy for stone cholecystitis. Six months after surgery appeared pain in the upper half of the abdomen, sometimes with irradiation in the back. With the used of antispasmodics and with the maintenance of rational nutrition, well-being improved. The patient has been noticed liquid stool and weight loss during 2 years.

Objective examination: the patient's condition is satisfactory. BMI – 23 kg/m². Respiratory, cardiovascular system without pathology. The tongue is moist, at the root lined with white bloom. Superficial palpation of the abdomen shows some tenderness in the epigastrium and in the right hypochondrium. There are no symptoms of peritoneal irritation. Pain in the Schofar zone. Kerte and Mayo-Robson symptoms are positive. Pasternatsky's symptom is negative on both sides. Clinical and biochemical analysis of blood without pathological change.

Coprological examination: a large amount of starch, fat, vegetable fiber, fecal elastase-1 – 100 µg/g (N – more than 200 µg/g).

Ultrasound examination of the abdominal cavity: liver is normal size, homogeneous structure, normal echogenicity, ducts are not dilated, common bile duct – 6 mm, gall bladder – removed. Pancreas of increased echogenicity, heterogeneous, duct – 2 mm, head of pancreas enlarged to 33 mm.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should differential diagnosis be performed?
3. Identify treatment tactics and list groups of drugs.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 18

Station 1

Patient B., 59 years old, underwent a preventive examination at a clinic. He did not have any complaints at the time of examination. He had suffered from a transient ischemic attack three years ago; since that time, he had never visited a doctor. He took his medications irregularly.

Objective findings: The general condition is satisfactory. On auscultation: vesicular breathing, no rales in the lungs. Respiratory rate is 18 per minute. Heart sounds are muffled, rhythmic, no murmur. Heart rate is 75 beats per minute. Blood pressure is 185/95 mmHg. The abdomen is soft, painless on palpation, the liver is not enlarged. No peripheral edema observed. Body mass index is normal.

Blood count and urine analysis are without pathological findings. On ECG: regular sinus rhythm; heart rate – 75 beats per minute; left axis deviation; increased S-wave amplitude in the right chest leads and increased R-wave amplitude in the left chest leads; ST-segment depression by 0.3 mm in I, aVL, V5–V6; negative asymmetric T-wave in I, aVL, V5–V6. On EchoCG: left atrium – 3.9 cm (reference range: 3.0–4.0 cm), right atrium – 2.6 cm (reference range: 2.9–4.5 cm), interventricular septum thickness – 1.5 cm (reference range: 0.6–1.0 cm), posterior wall of the left ventricle – 1.6 cm (reference range: 0.6–1.0 cm), ejection fraction of the left ventricle – 61% (reference range: > 55%), impaired diastolic function of the left ventricle.

Questions:

1. Make a preliminary diagnosis.
2. What diseases should you differentiate this condition from?
3. Define the treatment strategy and indicate groups of drugs to be used.
4. Name the representatives of drugs from each group.
5. Specify the dose and frequency of drug administration.

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Variant No. 19

Station 1

A 57-year-old man visited a doctor, complaining of compressive pain behind the breastbone, which occurred when he was walking at a distance of 250 meters and was climbing one flight of stairs; this pain irradiated to the left shoulder and passed within 3–5 minutes after stopping. He never took nitroglycerin. From the anamnesis: similar pains had disturbed him for a year and a half. The patient received Nebivolol 5 mg daily and Aspirin 100 mg daily. Despite that, the attacks persisted. He had smoked for 20 years $\frac{1}{2}$ packs per day.

The skin is clean, of normal color. Breathing is vesicular, no rales in the lungs. Heart sounds are muffled, rhythmic. HR – 102 beats per minute, blood pressure – 120/80 mm Hg. The abdomen is soft, painless on palpation. The liver and spleen are not enlarged. No peripheral edema and no dysuria found.

Test findings: total cholesterol - 6.6 mmol/L, LDL cholesterol - 3.5 mmol/L, TG - 2.7 mmol/L, fasting glucose - 5.1 mmol/L, creatinine - 96 μ mol/L, GFR (according to CKD-EPI) – 86.6 mL/min.

On ECG: sinus rhythm, heart rate – 102 beats per minute, normal electric axis position, R/S wave ratio in the chest leads reveals no abnormalities, sinus tachycardia present.

Veloergometry: the test was stopped at 75 watts load due to chest discomfort and ST-segment depression by 2 mm in the leads V4, V5, V6.

On EchoCG: left atrium size - 3.8 cm (reference range: 3.0–4.0 cm), thickness of the interventricular septum - 1.0 cm (reference range: 0.6–1.0 cm), posterior wall of the left ventricle - 1.0 cm (reference range: 0.6–1.0 cm), left ventricular ejection fraction - 57% (reference range: > 55%).

Questions:

1. Make a preliminary diagnosis.
2. What diseases should you differentiate this condition from?
3. Define the treatment strategy and indicate groups of drugs to be used.
4. Name the representatives of drugs from each group.
5. Specify the dose and frequency of drug administration.

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Variant No. 20

Station 1

Patient M., 25 years old, complained about severe weakness, temperature rise up to 39–40 °C, drenching sweating during declination of fever, labored breathing during exercise, arthralgia. Anamnesis: the patient was sick during the week. He noted body temperature rise and weakness 3–4 days after the extraction of a molar tooth on the right side. He took antipyretic drugs, which produced no effect. The fever and weakness progressed, later joint pain and shortness of breath occurred. The patient was hospitalized.

Objective data: the condition is grave, the skin is pale. The body temperature is 38.9 °C. Breathing is vesicular, no rales. Respiratory rate – 22 per min. The left border of relative cardiac dullness is in the 5th intercostal space along the mid-clavicular line, heart sounds are muffled, rhythmic, the systolic sound is heard in the 3–4 intercostal space to the left of the sternum, diastolic murmur over the aorta is heard in the upright position. Heart rate – 95 beats per min, blood pressure – 115/70 mm Hg. The abdomen is soft and painless. The liver does not protrude below the costal margin. No costovertebral angle tenderness on both sides.

Blood count: ESR – 34 mm/hr, RBC – $4.6 \times 10^{12}/L$, Hb – 137 g/L, WBC – $14.3 \times 10^9/L$, basophils – 0%, eosinophils – 2%, stabs – 10%, segmented – 71%, lymphocytes – 12%, monocytes – 5%. Urine analysis: clear, weakly acidic, proteins – 0 g/L, no glucose, WBC – 0–1–2 per power field, RBC – 0 per power field, epithelium – 0 per power field.

ECG: the rhythm is sinus and regular, sinus tachycardia present.

Ultrasound of the heart: the aorta is not indurated, the left atrium is 40 mm (reference range: 3.0–4.0 cm), the left ventricular ejection fraction is 55% (reference range: > 55%), the thickness of the interventricular septum is 10 mm (reference range: 0.6–1.0 cm), left posterior ventricular wall – 10 mm (reference range: 0.6–1.0 cm), large vegetations are on aortic valve leaflets, the mitral valve is without pathological changes. Grade 2 aortic valve regurgitation.

Questions:

1. Make a preliminary diagnosis.
2. What diseases should you differentiate this condition from?
3. Define the treatment strategy and indicate groups of drugs to be used.
4. Name the representatives of drugs from each group.
5. Specify the dose and frequency of drug administration.

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Variant No. 21

Station 1

Patient A., 75 years old, visited a GP with complaints of headache in the occipital region, dizziness, increased blood pressure, arrhythmia, palpitations. Anamnesis: headache and elevated BP to 175/90 mm Hg and palpitations had been present for two months. He did not seek medical help in this regard.

Objective findings: the skin is clear, of normal color. Breathing is vesicular, no rales in the lungs. Heart tones are muffled, arrhythmic. HR – 97 beats per min, blood pressure: on the right hand – 175/90 mm Hg, on the left hand – 170/85 mm Hg. The borders of the heart: the left border is 1.5 cm medial of the left mid-clavicular line. Heart sounds are sonorous, rhythmic, P-tone accent is on the aorta. The abdomen is soft and painless. The liver is not enlarged. No costovertebral angle tenderness found on both sides. No edema observed.

Blood count: HB – 142 g/L, RBC – $4.9 \times 10^{12}/L$, WBC – $6.0 \times 10^9/L$; eosinophils – 1%, stabs – 4%, segmented – 66%, lymphocytes – 24%, monocytes – 5%, ESR – 6 mm/hr. Blood glucose – 4.5 mmol/L.

Urine analysis: S.G. – 1014, protein – 0, glucose – 0, WBC – 1–1–2 per power field.

On ECG: the rhythm is sinus, irregular; heart rate – 97 beats per min, electric axis deviation to the left, high RV4–V6, $RV4 < RV5 > RV6$, high RAVL (> 11 mm), $RV5 + SV2 = 44$ mm. Left ventricular hypertrophy, sinus tachycardia, and ventricular extrasystole are present.

Ultrasound of the heart: the left atrium – 4.5 mm (reference range: 3.0–4.0 cm), thickness of the interventricular septum – 1.4 cm (reference range: 0.6–1.0 cm), back wall of the left ventricle – 1.5 cm (reference range: 0.6–1.0 cm), left ventricular ejection fraction – 60% (reference range: $> 55\%$). Enlarged left atrial cavity, left ventricular hypertrophy, sclerotic changes in the aorta, and diastolic dysfunction are found.

Questions:

1. Make a preliminary diagnosis.
2. What diseases should you differentiate this condition from?
3. Define the treatment strategy and indicate groups of drugs to be used.
4. Name the representatives of drugs from each group.
5. Specify the dose and frequency of drug administration.

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Variant No. 22

Station 1

A 72-year-old woman G. visited a doctor with complaints about palpitations and irregular heartbeat. From anamnesis: 5 months ago (20.06.2019), she had an acute myocardial infarction in the inferior wall of the left ventricle with ST-segment elevation. The patient had coronary angiography that revealed 85% stenosis of the left circumflex coronary artery (LCCA). Due to these, the patient had transluminal coronary angioplasty and stenting of LCCA performed. One bare-metal stent was placed. During three years, a permanent form of atrial fibrillation was verified in the patient.

Objective findings: the skin is clean, of normal color. Vesicular breathing and no rales are found in the lungs. Heart tones are muffled, arrhythmic. HR – 123 beats per min, heart rate – 120 beats per minute. BP – 120/80 mm Hg. The abdomen is soft, painless on the palpation. The liver and spleen are not enlarged. No costovertebral angle tenderness found on both sides. No edema observed.

ECG: The rhythm is not sinus, irregular. HR – 123 per minute, P-waves are absent in all leads. Small f-waves are observed between QRS complexes. A pathological Q-wave in II, III, aVF.

EchoCG: the left atrium size – 5.0 cm (reference range: 3.0–4.0 cm), thickness of the interventricular septum – 1.0 cm (reference range: 0.6–0.9 cm), posterior wall of the left ventricle – 1.0 cm (reference range: 0.6–0.9 cm), cicatricial changes in the inferior wall of the left ventricle. The ejection fraction is 50% (reference range: > 55%).

Questions:

1. Make a preliminary diagnosis.
2. What diseases should you differentiate this condition from?
3. Define the treatment strategy and indicate groups of drugs to be used.
4. Name the representatives of drugs from each group.
5. Specify the dose and frequency of drug administration.

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Variant No. 23

Station 1

A 65-year-old patient N., visited a cardiologist with complaints about dizziness, fatigue, short-term fainting (up to 20 s), headache, increased BP, general weakness. The patient reported that feeling unwell, the complaints and fainting episodes had been present for four months. She could not associate her illness with any reason.

Objective findings: general health condition is of moderate severity. The skin is pale pink. Pulse – 39 per minute, rhythmic, tense. BP – 160/85 mm Hg. The left border of the heart is 1 cm medial of the left mid-clavicular line. Heart rate is rhythmic, 39 per min; weak first heart sound over the apex of the heart, moderate diastolic shock over the aorta. The abdomen is soft and painless. The liver reveals no abnormalities, liver size according to Kurlov – 9x8x7 cm. No edema on the feet.

Blood count and urinalysis: no abnormalities.

Blood chemistry: high cholesterol – 6.5 mmol/L. On ECG: third-degree atrioventricular block.

Ultrasound of the heart: the left atrium – 47 mm (reference range: 3.0–4.0 cm), thickness of the interventricular septum – 13 mm (reference range: 0.6–0.9 cm), posterior wall of the left ventricle – 14 mm (reference range: 0.6–0.9 cm), ejection fraction – 56% (reference range: > 55%). Increased left atrial cavity, left ventricular hypertrophy, aortic sclerosis, diastolic dysfunction of the left ventricular.

Questions:

1. Make a preliminary diagnosis.
2. What diseases should you differentiate this condition from?
3. Define the treatment strategy and indicate groups of drugs to be used.
4. Name the representatives of drugs from each group.
5. Specify the dose and frequency of drug administration.

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Variant No. 24

Station 1

36 years-old patient, woman, came to a therapist with complaints about episodic dizziness, which occurred suddenly during intense physical activity, and episodic short-term fainting, as well as irregular heartbeat. Anamnesis: the patient never visited a doctor with regard to these symptoms. She reported no previous history of chronic diseases. She reported being sick as long as 3 months when the first episodes of dizziness appeared. The night before, she had an episode of short-term fainting after intense exercise. She did not consult a doctor for that. Hereditary background: father suddenly died at the age of 43.

On examination: the condition is satisfactory. The skin is of normal colour. There is no peripheral edema. In the lungs: breathing is vesicular, no rales.

RR – 16 per minute. The apex impulse is enhanced. Heart tones are rhythmic, clear. Heart rate – 63 beats per minute. A loud systolic murmur is heard over the apex and along the left border of the sternum. BP – 120/80 mm Hg. The abdomen is soft, painless on palpation. The liver and spleen are not palpable. The stool is formed. No costovertebral angle tenderness found on both sides.

ECG: sinus rhythm, irregular; heart rate – 63 beats per min, left axis deviation. Sokolow-Lyon index – 56 mm. Ventricular extrasystoles.

Holter ECG monitoring: ventricular extrasystole, paroxysmal atrial fibrillation. Ultrasound of the heart: cardiac cavities are not dilated, ejection fraction is 59% (reference range: > 55%), thickness of the left ventricular posterior wall is 17 mm (reference range: 0.6–0.9 cm), interventricular septum thickness is 22 mm (reference range: 0.6–0.9 cm), diastolic dysfunction of the left ventricle. Pressure gradient in the left ventricular outflow tract (triggered or at rest) – 35 mm Hg (reference range: 8–10 mm Hg). Left ventricular hypertrophy with outflow tract obstruction found.

Questions:

1. Make a preliminary diagnosis.
2. What diseases should you differentiate this condition from?
3. Define the treatment strategy and indicate groups of drugs to be used.
4. Name the representatives of drugs from each group.
5. Specify the dose and frequency of drug administration.

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Variant No. 25

Station 1

A man, 22 years old, has complaints about fever up to 40 degrees, accompanied by chills, shortness of breath during some physical activity, pain in the heart area unrelated to physical activity. From the anamnesis, it is known that he has been an injecting drug user for 4 years (injections into the elbow veins). Three weeks before hospitalization, he noted temperature rise to 40 °C. As an antipyretic drug, the patient took non-steroidal anti-inflammatory drugs. After 3 days the temperature dropped to 37.2–37.4 °C, his condition slightly improved. However, after 12 days, the temperature rose again and the patient was hospitalized.

On examination: the skin is pale, clear. Peripheral lymph nodes are not enlarged. The body temperature is 38.9 °C. The breathing is vesicular, no rales in the lungs. RR – 18 beats per minute. Heart tones are clear; systolic murmur enhanced at the inspiration breath-hold is heard in the metasternum area. The diastolic shock on a. pulmonalis. BP – 110/60 mm Hg, heart rate – 105 beats per minute. The abdomen is soft, painless on palpation. The liver protrudes 2 cm below the costal margin, the border of the liver is smooth. The feet and legs are swollen. No costovertebral angle tenderness on both sides. Urination – no specific findings.

Blood count: erythrocytes – $3.3 \times 10^{12}/L$, hemoglobin – 126 g/L, leukocytes – $15.8 \times 10^9/L$, stab neutrophils – 15%, ESR – 42 mm/h, creatinine – 66 $\mu\text{mol}/L$, GFR – 92 mL/min/1.73 m², CRP – 120 mg/L (reference range: up to 5 mg/L). Blood culture for sterility repeatedly revealed *S. aureus*, sensitive to oxacillin and ceftriaxone.

Echocardiography: mitral valve: hardened valve leaflets. Tricuspid valve: valve leaflets are hardened, thickened; vegetations of moderate echo density are on the septal and anterior leaflets (1.86 and 1.11×0.89 cm); stage III-IV tricuspid regurgitation. The left ventricular ejection fraction is 43% (reference range: > 55%)

Questions:

1. Make a preliminary diagnosis.
2. What diseases should you differentiate this condition from?
3. Define the treatment strategy and indicate groups of drugs to be used.
4. Name the representatives of drugs from each group.
5. Specify the dose and frequency of drug administration.

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Variant No. 26

Station 1

A 55-year-old patient working as a driver visited a doctor, complaining about compressive pain behind the breastbone with irradiation to the left shoulder and shoulder blade; the pain occurred during fast walking, vigorous physical activity, and was followed by a feeling of fear, which disappeared at rest. He reported being sick for two months. He was treated by a neurologist for intercostal neuralgia. He took analgen, diclofenac, and received physiotherapy treatment, but these were ineffective. From the anamnesis: for about 5 years, the patient had been suffering from hypertension with a maximum blood pressure increase to 175/100 mm Hg. The patient did not receive permanent antihypertensive therapy. Hereditary background: the patient's father and elder brother had myocardial infarction before 55 years of age.

Objective findings: the condition is relatively satisfactory. The skin and visible mucous membranes are of normal color. There is no peripheral edema. The breathing is vesicular, no rales in the lungs. RR – 17 beats per minute. On auscultation: weak tone I over the apex of the heart, diastolic shock above the aorta. Heart sounds are muffled, rhythmic. BP – 170/100 mm Hg. The heart rate – 88 beats per minute. The abdomen is soft, painless on palpation. The liver is not enlarged. No costovertebral angle tenderness found on both sides. Bowel and bladder habits are normal.

ECG: rhythm is sinus, regular; heart rate – 88 beats per min; left axis deviation; increased amplitude of S-wave in the right chest leads and increased amplitude of R-wave in the left chest leads; left ventricular hypertrophy.

Echocardiography: the left atrium size – 4.0 cm (reference range: 3.0–4.0 cm), thickness of the interventricular septum – 1.5 cm (reference range: 0.6–1.0 cm), posterior wall of the left ventricle – 1.4 cm (reference range: 0.6–1.0 cm), left ventricular ejection fraction – 61% (reference range: > 55%). Left ventricular hypertrophy and diastolic dysfunction of the left ventricle are observed.

Questions:

1. Make a preliminary diagnosis.
2. What diseases should you differentiate this condition from?
3. Define the treatment strategy and indicate groups of drugs to be used.
4. Name the representatives of drugs from each group.
5. Specify the dose and frequency of drug administration.

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Variant No. 27

Station 1

A 48-years-old patient complains of weakness, pain in the muscles of the upper and lower extremities, swallowing disorders (inability to swallow solid food), fever up to 39 °C, paresthesia, cooling of the extremities. She has been ill for a week.

On objective examination: slightly swollen erythema of the face, on the skin of the shoulders, in the area of the neckline, the brushes - a confluent, macular purple erythema. The boundary of relative cardiac dullness is shifted to the left by 1.5 cm, the activity of the heart is rhythmic, bradycardia, systolic murmur over all points. The muscles of the upper and lower extremities are painful, swollen, stiff. Reduction of muscular strength on the upper extremities: flexors - 5 out of 10, extensors - 4 out of 10; on the lower extremities: flexors - 5 out of 10, extensors - 6 out of 10.

General blood test: erythrocytes – $3,75 \cdot 10^{12}/l$, hemoglobin - 100 g/l, CI - 0.8, leukocytes – $14,8 \cdot 10^9/l$, ESR - 68 mm/h.

Biochemical blood test: ALT - 220 U/l, creatinphosphokinase - 980 U/l, protein - 70 g/l, bilirubin - 20 μ mol/l.

General urine analysis: protein - trace, red blood cells - 0-1 in hpf, leukocytes - 1-2 in hpf.

ECG: PQ - 0.28s, sinus bradycardia.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 28

Station 1

A 39-years-old complains of pain, morning stiffness and movement limitation in the cervical, lumbosacral spine, ankle and knee joints. For 8 years he was observed and repeatedly treated for discogenic radiculitis, inflammation of the gluteal nerve.

On objective examination: limitation of rotational movements in the cervical spine, "chin-sternum" distance - 5 cm, limitation of bending movements in the lumbar spine, pain when pressing on the crest of the iliac bones, limitation of respiratory excursion of the chest. The right knee is deformed, movements in half volume, synovitis of the ankle joints.

General blood test: erythrocytes – $3,9 \cdot 10^{12}/l$, hemoglobin - 108 g/l, leukocytes – $4,2 \cdot 10^9/l$, ESR - 34 mm/h.

X-ray examination of the right knee revealed narrowing of the joint space, marginal growths of the articular surfaces, sclerosis.

In X-ray of the sacroiliac joints: narrow and fuzzy joint spaces, subchondral osteosclerosis and partial ankylosis on both sides.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 29

Station 1

A 38-years-old patient complains of low back pain, pain in buttocks, spine, which lasts about a year, morning stiffness for 2 hours, which decreases after exercise. six months ago, he was consulted by an ophthalmologist about impaired vision and pain in the left eye. A diagnosis of uveitis was established and treatment was given with eye drops containing glucocorticoids, which brought relief.

On objective examination: joints without exudative changes, positive symptoms of Otto, Tomayer, Schober, Forrestier. There are no features of internal organs damages.

General blood test: erythrocytes – $4,5 \cdot 10^{12}/l$, hemoglobin - 118 g/l, leukocytes – $4,4 \cdot 10^9/l$, ESR - 44 mm/h.

X-ray examination of the cervical, thoracic, lumbar spine, pelvic bones, diagnosed with partial calcification of the anterior longitudinal ligament, bilateral sacroiliitis of the 3d stage.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 30

Station 1

A 28-years-old female patient, complains of severe weakness, weight loss (5 kg in the last 3 months), daily fever up to 37.5 °C, periodic dizziness, headache, joint pain. Around the month there is a decrease in visual acuity.

On objective examination: a patient of normal nutrition, general condition is relatively satisfactory, skin is of normal color, body temperature - 37,5 ° C. Heart tones are rhythmic, slightly muffled, a gross systolic murmur is heard on the both carotid arteries. BP on the right arm — 160/100 mm Hg, on the left - not determined. Pulse on the right hand - 72 beats / min, on the left is not determined. On palpation, the abdomen is soft, slightly tender in the epigastric region, the liver is not enlarged. No edema. The joints are not changed, there are no signs of inflammation. Stool is without pathological impurities. Urination is free and painless.

Blood test: erythrocytes – $3,8 \cdot 10^{12}/l$, hemoglobin - 102 g/l, leukocytes – $7,6 \cdot 10^9/l$, ESR - 44 mm/h.

Ultrasound examination of vessels with Dopplerography: narrowing of the carotid arteries, mostly left.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
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Variant No. 31

Station 1

A 42-years-old patient complains of deformity of the nose, massive purulent discharge from the nasal passages, impaired nasal breathing, wheezing, periodic fever to 37,5°C, dry cough, shortness of breath during normal physical exertion, tearing, recurrent pain, swelling of the joints of the hands, wrist joints, the presence of small ulcers in the mouth.

On objective examination: the patient is of reduced nutrition, the skin is pale. Moderately painful aphtha with a diameter of 0.8 cm is seen in the oral cavity in the upper palate. There is a "saddle" deformity of the back of the nose, purulent discharge from the nose, constant lacrimation. Peripheral lymph nodes are not enlarged. During auscultation, breathing over the lungs is vesicular, weakened in the lower sections. Heart sounds are clear and rhythmic. Wrist joints are tender and oedematous.

Blood test: erythrocytes – $3,9 \cdot 10^{12}/l$, hemoglobin - 96 g/l, leukocytes – $7,2 \cdot 10^9/l$, ESR – 44 mm/h, CRP (++) , rheumatoid factor - negative, fibrinogen – 5,77 g/l, creatinphosphokinaze – 80 U/l, cANCA - positive.

Urine analysis: protein — 0,6 g/l, red blood cells — 25-30 in hpf, leukocytes — 13-15 in hpf.

On CT of the additional sinuses of the nose: thinning and destruction of the lumen of the lattice maze, maxillary sinus is found.

On CT of the lungs in the lower parts of both lungs, mainly subpleural, round shadows of 2-3 cm in size are determined.

Ophthalmologist consultation: canaliculitis, secondary blepharoconjunctivitis, retinal angiopathy of both eyes.

Otolaryngologist consultation: secondary atrophic rhinosinusitis with cartilage and bone defects.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 32

Station 1

A 43-years-old patient complains of severe weakness, weight loss of 10 kg in the last 2 months, daily fever up to 37.5 °C, periodic cramps in the lower extremities, impaired sensitivity in the upper and lower extremities. He considers himself sick for about a year. In the last 2 months the condition has progressively worsened.

On objective examination: the patient is of reduced nutrition, icteric mucosa, reticular livedo is on the skin of the extremities, papular rash is on the shins. Body temperature - 37,5° C. Heart tones are rhythmic, muted. Blood pressure - 150/100 mm Hg. On palpation, the abdomen is soft, slightly tender in the epigastric region, the liver is not enlarged. No edema. The joints are not changed, there are no signs of inflammation.

Blood test: erythrocytes – $3,5 \cdot 10^{12}/l$, hemoglobin - 92 g/l, leukocytes – $7,6 \cdot 10^9/l$, platelets - $209 \cdot 10^9/l$, ESR - 64 mm/h, creatinine - 165 $\mu\text{mol}/l$, urea 6,2 mmol/l, total bilirubin - 20 mkmol/l.

Urine analysis: protein — 0,2 g/l, red blood cells — 10-15 in phf, leukocytes — 8-10 in phf.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 33

Station 1

A 35-years-old patient complains of intense pain, swelling, restriction of movement in the right knee joint, pain, restriction of movement in the wrists, interphalangeal joints as well as morning stiffness for two hours. She has been ill for 6 months. The disease began with arthritis of small joints of hands. The patient took diclofenac, which facilitated the overall condition.

The last worsening occurred a week ago and was manifested mainly by symptoms from the right knee. Non-steroidal anti-inflammatory drugs were ineffective.

On objective examination: general condition of moderate severity. The patient is of reduced nutrition. On palpitation of joints swelling, increased local temperature above the right knee joint, sharp pain in movements in it, swelling and tenderness on palpation of the patella; swelling and tenderness of radial wrist joints, metacarpophalangeal and proximal interphalangeal joints of the second fingers, positive symptom of lateral compression

Blood test: erythrocytes – $3,8 \cdot 10^{12}/l$, hemoglobin - 106 g/l, CI — 0,81, leukocytes – $4,8 \cdot 10^9/l$, ESR - 57 mm/h, RF - 1:320, C-reactive protein - 35 mg/L

X-ray examination of the hands: narrow joint space, periarticular osteoporosis, multiple marginal erosions.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 34

Station 1

A 43-years-old female patient complains of weakness, weight loss, moderate shortness of breath, decreased tolerance to physical activity, swallowing disorders, pain in the hip, shoulder joints, wrists, chill and blanching of fingers in the cold. C She considers herself ill for three years.

On objective examination: The patient is of reduced nutrition, skin is dark, dense, swelling of the hands, forearm. Body temperature - $37,5^{\circ}\text{C}$, heart rate - 98 per min, blood pressure - 100/60 mm Hg. Heart borders are normal, systolic murmur is heard at the apex. Breathing in the lungs is weakened, diffuse wheezing is heard above lower lung field. In palpation, abdomen is soft, liver is not enlarged.

Blood test: erythrocytes – $3,2 \cdot 10^{12}/\text{l}$, hemoglobin - 94 g/l, leukocytes – $7,2 \cdot 10^9/\text{l}$, ESR - 54 mm/h, platelets - $209 \cdot 10^9/\text{l}$. Anti-topoisomerase antibodies are in elevated titer.

X-ray examination of the lungs revealed basal pneumofibrosis.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 35

Station 1

A patient of 26 years was admitted to the hospital with complains of severe headache, nausea, dull pain in the lumbar region, swelling around the eyes. The disease began acutely.

Physical examination revealed: condition of moderate severity, body temperature - 37,2°C, blood pressure - 220/140 mm Hg. Percussion revealed: the borderies of the heart are not changed, the heart tones are muted, rhythmic, accentuated S II over the aorta.

Clinical blood count: erythrocytes - $3.6 \times 10^{12}/l$, hemoglobin - 110 g / l, leukocytes - $9,7 \times 10^9/l$, ESR - 36 mm / hour. Biochemical blood analysis: total protein - 70 g / l, creatinine - 160 $\mu\text{mol}/l$, urea - 8.6 mmol / l. Urine analysis: specific gravity - 1012, protein - 1.0 g/l, erythrocytes - 30-40 in hpf, single hyaline casts. Daily proteinuria - 3.0 grams per day.

Questions:

1. Determine the previous diagnosis.
2. With what diseases is it necessary to carry out differential diagnostics?
3. Determine patient management, treatment, and drug groups.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 36

Station 1

A patient of 34 years came to the doctor with complains on fever to 38.5° C, muscle pain, right-side lumbar pain, frequent urination.

Physical examination revealed: condition of moderate severity, body temperature - 38,2°C, blood pressure - 120/90 mm Hg. Pasternatsky's symptom is positive on the right.

General blood test: erythrocytes - $4,2 \times 10^{12}/l$, hemoglobin - 130 g/l, leukocytes - $12,0 \times 10^9/l$, ESR - 30 mm/hour.

Biochemical blood analysis: total protein - 72 g/l, albumins - 40%, globulins - 60%, creatinine - 97 $\mu\text{mol}/l$, urea - 5.6 mmol/l.

Urine analysis: specific gravity - 1020, protein - 0.04 g/l, leukocytes - 40-60 in field of vision, erythrocytes - 1-2 in hpf, bacteria – in hpf. Daily proteinuria - 0.06 grams per day.

Questions:

1. Determine the previous diagnosis.
2. With what diseases is it necessary to carry out differential diagnostics?
3. Determine patient management, treatment, and drug groups.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 37

Station 1

A woman of 50 years has been suffering from chronic glomerulonephritis for 20 years. She was received to the hospital due to the expressed weakness, nausea, drowsiness, reduction of daily diuresis to 200 ml per day.

Physical examination revealed: Condition of moderate severity, body temperature - 36,2°C, skin dry, pale, yellow. Percussion revealed: Borders of the heart expanded to the left, heart tones are muted, rhythmic, accentuated S2 above aorta. Blood pressure - 180/110 mm Hg.

Clinical blood count: erythrocytes - $2.6 \times 10^{12}/l$, hemoglobin - 90 g / l, leukocytes - $7,0 \times 10^9/l$, ESR - 20 mm / hour. Biochemical blood analysis: total protein - 62 g/l, creatinine - 860 $\mu\text{mol}/l$, urea - 13.6 mmol/l, potassium - 6.8 mmol/l. Urine analysis: specific gravity - 1006, protein - 1.0 g/l, erythrocytes - 2-4 in hpf, single hyaline casts. The glomerular filtration rate is 10 ml/min.

Questions:

1. Determine the previous diagnosis.
2. With what diseases is it necessary to carry out differential diagnostics?
3. Determine patient management, treatment, and drug groups.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 38

Station 1

Patient 58 years was treated because of hospital-acquired pneumonia in the hospital (antibiotics, non-steroidal anti-inflammatory drugs were prescribed). Oliguria has been developed by the 10th day - daily diuresis put together 300 ml per day. The patient complains on swelling of the lower extremities, pain in the lumbar region, headache.

Physical examination revealed: condition of moderate severity. The skin is dry, pale. Blood pressure - 170/100 mm Hg.

Clinical blood count: erythrocytes - $3.0 \times 10^{12}/l$, hemoglobin - 120 g/l, leukocytes - $9,8 \times 10^9/l$, ESR - 32 mm / hour.

Biochemical analysis of blood: total protein - 62 g/l, creatinine - 150 $\mu\text{mol}/l$, urea 10.6 mmol/l, potassium - 5.8 mmol/l.

Urine analysis: relative density - 1020, protein - 0.5 g / l, erythrocytes - 2-4 in hpf, single hyaline casts.

Questions:

1. Determine the previous diagnosis.
2. With what diseases is it necessary to carry out differential diagnostics?
3. Determine patient management, treatment, and drug groups.
4. Name the representatives from each group.
5. Specify the dosage and frequency of administration.

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Variant No. 39

Station 1

A 55-years-old man complains of shortness of breath at rest, swelling of the lower extremities, aching pain in the heart, palpitations, heart failure, heaviness and aching pains in the right hypochondrium. He is sick for about 3 years, when for no reason shortness of breath with mild physical activity and intermittency appeared.

Objective data: general condition of moderate severity. Shortness of breath at rest. Respiratory rate – 24/min. Significant swelling of the feet, lower legs. Breathing is rough, crackles are audible in the lower lungs. Heart rate - 127 per minute, pulse - 104/min, arrhythmic, low filling. BP - 105/65 mm Hg. The boundaries of relative cardiac dullness are extended. Heart tones are muffled, the accentuated S₂ above the 2nd tone is accentuated above the pulmonary artery, systolic murmur at the apex. The abdomen is soft, moderately painful in the right hypochondrium. The liver protrudes 3 cm from the edge of the costal arch.

Echocardiography: enlargement of all cavities of the heart, thrombus is present in the left atrial cavity, left ventricular ejection fraction is 35%.

On electrocardiogram: atrial fibrillation, tachysystolic variant.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 40

Station 1

Female patient, 46 years old, complains of a headache, unpleasant sensations in the heart area, flashing "midges" before her eyes. She notes increase in blood pressure up to 170 - 180 and 95/110 mm Hg for the past four years. 15 years ago she was treated outpatient for neuro-circulatory dystonia with hypertensive type. The patient's father died of a stroke at the age of 53.

Objective data: general condition is satisfactory. Body mass index – 38 kg/m². Pulse - 98 per minute, rhythmic, tense. BP - 165 / 95 mmHg. The left border of the heart is located 1 cm outside the left mid-clavicular line. The first sound over the heart apex is muted, accentuated S₂ over the aorta. Examination of the respiratory organs and abdominal cavity revealed no changes.

On echocardiography: enlargement of the left atrium to 4.2 cm (norm - 1.9 - 4.0 cm), thickness of the interventricular septum 1.2 cm (norm - 0.6 - 1.1 cm), posterior wall of the left ventricle - 1, 3 cm (norm - 0.6 - 1.1 cm), left ventricular ejection fraction 76% (norm - 48% - 78%).

Ultrasound of the kidneys - signs of salt diathesis.

Doppler ultrasound of the kidneys: arterial inflow and venous blood flow are unchanged.

Fundoscopy: narrowing of the arteries and dilated veins.

Question:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 41

Station 1

A 32 – years old patient has been taken to the hospital with complaints of headache, dizziness, visual acuity impairment, palpitations, fear, thirst, frequent urination. He considers himself ill for four months, notes the attacks that occur suddenly after physical exertion, emotional stress, which last from 15 to 45 minutes and disappear on their own.

Objective data: General condition of moderate severity. The patient is excited, his face is pale, skin is covered with cold sweat. Pulse rate - 99 per minute, rhythmic, intense. BP - 230/ 125 mm Hg. The left border of the heart is located 1 cm outside the left mid-clavicular line. The 1st tone above the heart apex is preserved, the accentuated 2nd sound over the aorta is heard. Changes in the study of the respiratory system and abdominal organs were not detected.

Ultrasound examination of abdominal organs: length of right kidney - 10 cm, width - 6 cm, width of parenchyma - 4 cm; left kidney - 11; 6.5 and 4.5 cm, respectively; size of the right adrenal gland: length - 36 mm, width - 16 mm, structure changed; left adrenal gland: length - 25 mm, width - 15 mm. Daily excretion of vanillylmagdalic acid 96 μ mol / day (norm <50 μ mol / day).

Normal ranges of ultrasound parameters of the kidneys: length - 10 - 12 cm; width - 5 - 6 cm; width of the parenchyma - 1.0 - 2.3 cm

Normal ranges of ultrasound parameters of the adrenal gland: length of the right adrenal gland - 18 - 28 mm, length of the left - 16 - 25 mm; width of adrenal gland on left and right - 11 – 16 mm.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
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Variant No. 42

Station 1

66 years old patient was admitted to the medical ward with complaints of headache, feeling of heaviness in the head, insomnia, increased blood pressure, palpitations, and general weakness. For 11 years he is been noting elevated blood pressure increase 160 - 180 / 90 - 100 mm Hg. Four years ago he suffered a myocardial infarction.

Objective data: General condition is satisfactory. BP - 175 / 95 mm Hg. Pulse rate - 102 per min, rhythmic, intense. The apical impulse is enhanced, the left border of the heart is located 2.5 cm outside the left mid-clavicular line. The 1st tone over the apex of the heart is weakened, the accentuated S₂ above the aorta. Examination of the respiratory system showed no changes. The abdomen is not enlarged in volume, the liver at the edge of the costal arch.

Total blood and urine analysis: unchanged.

Biochemical blood analysis: total protein - 65 g/l, cholesterol - 6.9 mmol/l, urea - 7.1 mol/l, creatinine - 78 mmol/l.

Echocardiography: left atrium - 3.8 cm (normal - 1.9 - 4.0 cm); thickness of an interventricular section is 1.4 cm (norm - 0.6 - 1.1 cm), thickness of the back wall of the left ventricle - 1.6 cm (norm - 0.6 - 1.1 cm). Left ventricular ejection fraction - 53% (normal - 48% - 78%).

ECG: rhythm is regular and sinus. Deviation of the electric heart axis to the left, increase in the amplitude of the S wave in the right leads, R - in the left thoracic leads. Pathological Q in II, III, aVF. Sinus tachycardia.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 43

Station 1

A 46-year-old patient referred to a physician complaining of sternal pain that occurs while walking 600 meters and climbing to the second floor and terminating after sublingual administration of 1 tablet (0.5 mg) of nitroglycerin. The pain has been worrying for four months.

Objective data: general condition is satisfactory. Normal skin. Pulse rate - 86 per minute, rhythmic. Blood pressure - 135 / 85 mmHg. The boundaries of the heart are not expanded, the activity of the heart is rhythmic, the sounds are audible. Examination of the lungs and abdominal organs revealed no changes. No edema.

Data of additional research: The general blood and urine tests are normal. Biochemical blood test: glucose - 4.2 mmol / l, bilirubin - 16.2 μ mol / l, urea - 8.0 mmol / l, potassium - 4.0 mmol / l, AsAT - 0.38 μ mol / l, ALT - 0.4 μ mol / l, cholesterol - 6.1 mmol / l.

On electrocardiography: PQ = 0.16 ", QRS = 0.09", QT = 0.38 ", RII > RI > RIII, transition zone – V₃, RV₄ > RV_{5, 6}, ST segment on the isoline, negative T wave in V₁ lead.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 44

Station 1

A 50-year-old female patient called an ambulance home. In the morning after drinking coffee, she started worrying about chest pain with irradiation in the left shoulder. The episode began about 15 minutes ago as she sat reading a book. This pain has been disturbing before, sometimes at night, though the previous episodes usually ended in a few minutes.

Objective data: Pulse rate- 120/min, blood pressure - 125/90 mm Hg, respiratory rate - 24/min.

On electrocardiography: ST segment elevation in II, III and aVF leads. There is no change on the ECG taken after 30 minutes.

Serum troponins were negative in two consecutive blood tests.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 45

Station 1

17 years old female patient has been hospitalized with complaints of general weakness, fever, dull chest pain, pain in the right knee and left elbow joints, shortness of breath during exercise, palpitations.

Anamnesis: angina recures 2–3 times a year, the last one – 3 weeks ago.

Objectively: the condition is relatively satisfactory, the skin is pale, moist, palpable lymph nodes in the submandibular region. Vesicular breathing, respiratory rate - 20 per minute. Borders of the heart: right – 1 cm outwards from the edge of the sternum, the upper - the third rib, the left - on the left mid-clavicular line, coincides with the apical impulse. The activity of the heart is arrhythmic, the S₁ above apex is the same intensity as the S₂, short systolic murmurs, which is radiates to the anterior axillary region. Pulse - 100 beats per minute, blood pressure - 110/55 mm Hg. The abdomen is soft, painless, the liver is enlarged.

Blood test: leukocytosis, shift of leukocyte formula to the left, erythrocyte sedimentation rate – 20 mm per hour, increase in CRP. Antistreptolysin - O - 675 U (norm <200 U).

On the ECG: PQ interval - 0.24 seconds, supraventricular extrasystole.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 46

Station 1

A 52-year-old man went to the doctor complaining of shortness of breath with mild exercise for 2 months. History: chronic rheumatic heart disease and type 2 diabetes. He is currently taking carvedilol, torasemide and insulin. He smokes for about 20 years.

Objectively: temperature - 36, 4 ° C, pulse - 76 per minute, regular, breathing - 20 per minute, blood pressure - 125/80 mm Hg. Pulse rate - 87 per minute, heart rate - 130 per minute. Borders of the heart: left - on the left mid-clavicular line, upper - 2 intercostal space on the left, right - 1 cm from the right edge of the sternal.

Auscultation: the S₁ is loud, the opening snap of the mitral valve, diastolic murmur in the fifth intercostal space to the left along the midclavicular line.

Echocardiography: arrhythmia, mitral valve area 1.5 cm² (norm - 4 - 6 cm²) left ventricular ejection fraction - 52% (norm – 55 % - 70 %).

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 47

Station 1

A 64-year-old man came to the doctor complaining of a decrease in exercise tolerance. For the past four months he has noticed progressive shortness of breath while walking and occasionally at night while sleeping.

Objectively: temperature - 36,4° C, heart rate - 84/min, respiration - 20/min, blood pressure - 160/50 mm Hg. Carotid pulsation, capillary Quincke's pulse.

Cardiac examination: the borders of relative cardiac dullness extended to the left to the anterior axillary line, a high intensity diastolic murmur is heard in the 2 intercostal space to the right of the sternum and along the left sternal border, systolic murmur – at the apex.

Echocardiography: calcification of aortic valve fibrous ring, regurgitation on the aortic valve 2+, on the mitral – 1+. Signs of left ventricular hypertrophy, ejection fraction of the left ventricle- 58%.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 48

Station 1

A 28-year-old woman works as a teacher. She is brought to the primary care physician because of fatigue, unintended weight loss on 10 kg for 2 months despite eating more than usual, heart palpitations, irritability, watering eyes, and trembling in her body. These symptoms have been occurring for the past 2 months. She does not drink, smoke, or use illicit drugs.

Physical examination: her temperature is 37.7°C, the pulse is 116 beats per min, respiratory rate is 18 per min, and blood pressure is 160/70 mm Hg. She is anxious and exhibits a slight tremor in her fingers of outstretched hands. The skin is warm and moist. The patient's look is fixed; blinking is rare. There is a dissinergism between eye ball's and superior eyelid's movement when the patient is looking downward (von Graefe's sign). Clearly visible swollen neck, the thyroid gland is enlarged, soft, non-tender, and cervical lymph nodes are not palpable. Patellar tendon reflexes are brisk bilaterally. Cardiac examination shows normal heart boundaries, loud first heart sound. The lungs are clear to auscultation. The abdomen is soft and non-tender. She has been experiencing loose stool up to 3 times a day. Urination is unpainful, 4-5 times a day. Menstruation stopped 2 months ago.

Thyroid ultrasound revealed homogenous hypo-echogenicity of hypervascular and enlarged thyroid gland till grade 2 without nodules.

Relevant laboratory findings: free triiodothyronine level of 8 pmol/l (normal: 2,6-5,7 pmol/l), free thyroxine of 48 pmol/l (normal: 9-22 pmol/l), and thyroid-stimulating hormone of 0.01 μ U/ml (normal: 0.4-4 μ U/ml).

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 49

Station 1

A 48-year-old man with diabetes mellitus type 2 comes to his physician because of noticing numbness and drainage on the sole of his sock. He does not recall a history of any recent trauma. He was diagnosed with hypertension 3 years ago, and he is currently on medication: metformin 2000 mg/day, gliclazide 120 mg/day, perindopril 4 mg/day, indapamide 1,25 mg/day. His last glycated hemoglobin (HbA_{1c}) level was 8.5%. He has a 20-pack-year history of smoking.

Physical examination: the patient's temperature is 36.7°C, the pulse is 98 per min, blood pressure is 146/98 mm Hg, and the body mass index is 33 kg/m². His feet are warm and dry with decreased sensation, dorsalis pedis and posterior tibial pulses are palpable. On the base of his left foot, below the first metatarsal head, there is erythema swelling surrounding an ulcer with the exposed underlying bone. The ulcer measures 2×2 cm.

Foot X-ray demonstrates a lytic area at the base of the ulcer with sclerotic changes. An ulcer culture was sent for investigation.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 50

Station 1

A 54-year-old man comes to his physician's office complaining of frequent painless urination, waking three times a night to urinate. He says that this has been occurring for the past 5 months and that he has also become increasingly thirsty. He has a history of hypertension and hypercholesterolemia, for which he takes 10 mg of atorvastatin and diet.

On examination, his pulse is 80 per min and blood pressure is 140/90 mm Hg. Fundoscopic and retinal exams are within normal limits. On the digital rectal exam, the prostate is soft, nontender, and not nodular. The patient has decreased sensation to pinprick on the plantar surfaces of his feet.

Laboratory results of blood panel: fasting glucose – 9 mmol/l, postprandial glucose – 12 mmol/l, HbA1c – 8.0 %, osmolality – 285 mOsm/kg (normal: 280-300 mOsm/kg), sodium – 144 mmol/L, potassium – 4.5 mmol/L, creatinine – 82 mmol/L, tryglyceride – 2,5 mmol/L, low density lipoptoteins – 3,0 mmol/l, total cholesterol – 5,3 mmol/l.

Urinalysis: protein – negative, erythrocytes – 0 cells in hpf, leukocytes - 0-1 cells in hpf, leukocyte esterase – negative, osmolality – 190 mOsm/kg (normal: 50-1400 mOsm/kg).

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 51

Station 1

A 36-year-old man comes to his physician because of muscle weakness, sleepiness, headaches in the temporal areas, reducing potency. He states that the 8-kg weight gain with fatty tissue deposits, particularly around the midsection and upper back, in the face and abdomen has been happening for the past 4 years. The patient associated these symptoms with a previous upper respiratory viral infection.

Physical examination shows a rounded face, dry skin with purple stretch marks on the abdomen and back. His height is 171 cm, weight – 101 kg. Temperature is 37.0°C, the pulse is 84 per min, respirations are 14 per min, and blood pressure is 160/102 mm Hg.

Blood tests: fasting glucose – 8 mmol/l, serum cortisol level decreased on 30% of baseline after 1-mg overnight dexamethasone suppression test and shown 88 nmol/l (normal range less than 50 nmol/l), plasma adrenocorticotrophic hormone level – 7.4 pmol/L (normal range 1-2 pmol/L).

On the skull X-ray, sella turcica is of typical configuration, 1.0*9.0 cm in size.

Ultrasound of the abdomen: hyperplasia of adrenal glands.

On contrast-enhanced magnetic resonance imaging, a 7-mm solitary pituitary mass is noted.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 52

Station 1

A 24-year-old woman visits her primary care physician after experiencing 2 months of frequent urination (up to 12 times per day). She also notes having to get up several times each night to urinate. She denies burning or pain on urination but reports excreting a large volume of yellow and clear urine each time. She reports feeling thirsty all the time, and although it is winter, she always drinks cold water. She takes no medications and denies recent head trauma, headaches, or changes in vision.

Her temperature is 36.8°C, blood pressure is 125/80 mm Hg, the pulse is 78 per min, and respiratory rate is 14 per min. Physical examination reveals no abnormalities. A water deprivation test is performed, which reveals the following values:

Pre-deprivation:

sodium – 142 mmol/L, potassium – 3.9 mmol/L, HCO_3^- : 24 mmol/L, blood urea nitrogen – 3 mmol/L, creatinine – 71 mmol/L, glucose: 5,8 mmol/L.

Plasma osmolality: 290 mOsm/kg (normal range 275-295 mOsm/kg).

Urine osmolality: 124 mOsm/kg (normal range 50-1400 mOsm/kg).

Post-deprivation:

sodium – 150 mmol/L, plasma osmolality: 325 mosm/kg, urine osmolality: 132 mosm/kg.

After the desmopressin challenge, urine osmolality increased to 312 mosm/kg.

Questions:

1. Make a preliminary diagnosis.
2. With what diseases should the differential diagnostics be carried out?
3. Identify treatment tactics and list groups of medications.
4. Name the agents of each group.
5. Specify the dose, frequency of use.

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Variant No. 53

Station 1

Patient H. was taken by the ambulance to the infectious department in serious condition. He got ill 5 days ago, when intense pain in the calf muscles appeared, body temperature increased to 40° C, a rash on the body and extremities rose-papular with a hemorrhagic component, scleral ictericity, and urine darkened.

Objectively: hyperemia and puffiness of the face, hemorrhages in the sclera, icteric sclera, hemorrhagic rash on the skin, hemorrhages, nosebleeds. The liver is enlarged, sensitive, spleen +2 cm, diuresis 500 ml. Epidemiological history: the patient works as a storekeeper.

Questions:

1. Formulate a clinical diagnosis.
2. Make a plan for the examination of the patient to confirm the diagnosis, describe the expected results.
3. Make a treatment plan, indicate the dose and frequency of administration, duration of treatment.
4. What diseases need a differential diagnosis?
5. Possible complications of the disease.

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Variant No. 54

Station 1

27 years old patient S. does not work, injects drugs, has promiscuous sexual relationships. He went to the doctor in connection with the appearance in the anal area and on the extremities of a lot of red-brown nodes and spots of raspberry color, sometimes with ulcers. In the analysis of blood anemia, leukopenia is revealed.

Questions:

1. Formulate a clinical diagnosis.
2. Make a plan for the examination of the patient to confirm the diagnosis, describe the expected results.
3. Make a treatment plan; indicate the dose and frequency of administration, duration of treatment.
4. What diseases need a differential diagnosis?
5. Possible complications of the disease.

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Variant No. 55

Station 1

38 years old patient M. was brought to the infectious hospital with complaints of severe weakness, headache, muscle pain, nausea, and vomiting. Body temperature increased to 39.50 C. He is sick during 3 day. Before the examination: the patient is anxious, there is a sharp weakness, a sense of fear, a shaky gait, speech is slurred. The lips and mucous membranes of the oral cavity are dry, the tongue is coated with a white coating (chalky tongue). Heart sounds are muffled. Pulse 160 per minute. The abdomen is painful, the liver and spleen are enlarged. In the area of the elbow joint, a painful conglomerate of dense consistency, fused with the surrounding tissues, the skin above it is hyperemic. From the anamnesis it was found out that the patient works at the port.

Questions:

1. Formulate a clinical diagnosis.
2. Make a plan for the examination of the patient to confirm the diagnosis, describe the expected results.
3. Make a treatment plan; indicate the dose and frequency of administration, duration of treatment.
4. What diseases need a differential diagnosis?
5. Discharge from the hospital.

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Variant No. 56

Station 1

A 35-year-old patient K. went to the hospital with complaints as a headache in the frontal area, pain in the eyes, that intensify by movements, fever up to 38.7°C, general weakness, lethargy. Objectively: facial skin, soft palate, the posterior pharyngeal wall is hyperemic with pinpoint hemorrhages. BP 100/70, pulse 100 min. The abdomen is soft, painless.

Questions:

1. Formulate a clinical diagnosis.
2. Make a plan for the examination of the patient to confirm the diagnosis, describe the expected results.
3. Make a treatment plan, mandatory prescription
4. What diseases need a differential diagnosis
5. Clinical examination of convalescents.

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Variant No. 57

Station 1

25 years old patient K. consulted to the local doctor with such complaints: fever up to 38.5°C, headache, malaise, decreased appetite, pain when swallowing, which is growing. The patient notes a deterioration in the last 2 days.

Objectively: the patient's condition is moderate. The skin is pale, hyperemia of the mucous membrane of the pharynx is moderate, with a cyanotic hue, tonsils are covered with a coating of dense consistency with comb protrusions and folds, some areas are dirty brown. The removed coating do not dissolve in water, do not rub with a spatula, in case of separation of coating the surface under them bleeds. Regional lymph nodes are not enlarged. Heart sounds are muffled, heart rate 96 per minute, blood pressure 100/60. Hemogram changes: leukocytosis, neutrophilia, ESR increased.

Questions:

1. Formulate a clinical diagnosis.
2. Make a plan for the examination of the patient to confirm the diagnosis, describe the expected results.
3. Make a treatment plan; indicate the dose and frequency of administration, duration of treatment.
4. What diseases need a differential diagnosis?
5. Possible complications of the disease.

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of Internal Medicine
with the Center of respiratory medicine

Lyudmyla PRYSTUPA

AGREED BY:
Director of Medical Institute

Andriy LOBODA

SUMY STATE UNIVERSITY

APPROVED

EXAMINATION TASK

of Objective Structured Clinical Examination (OSCE) of State Final Certification
in Education and Qualification Level "Specialist"
in the Specialty 7.1201000 "General Medicine"

Discipline "Internal, Occupational and Infectious Diseases"

Variant No. 58

Station 1

Patient aged 40 years admitted to the infectious ward on the 4th day of illness. The disease began with an increase in body temperature to 39°C, general malaise, headache. The next day there was a sore throat when swallowed. The last 2 days the temperature did not decrease, the temperature was kept at the level of 39-40°C, the patient had repeated vomiting. Objectively: the patient is adynamic, pronounced pale skin, hyperemia of the mucous membrane and significant swelling of the tonsils, palatal brackets, uvula, soft palate.

The tonsils are enlarged, on their surface a dense membrane of yellowish-gray color, which is not removed by a tampon and goes beyond the tonsils. Regional lymph nodes enlarged to 1.5 cm, dense, painful on palpation. Express edema of subcutaneous tissue to the middle of the neck, there is a sweet smell from the mouth. Heart rate 120 per minute, blood pressure 90/60 mm Hg. Blood tests revealed leukocytosis, thrombocytopenia, ESR of 20 mm / h.

Questions:

1. Make a clinical diagnosis.
2. Make a plan examination of the patient to confirm the diagnosis, describe the expected results
3. Draw up a treatment plan, indicate the doses of drugs, the frequency of administration, the duration of the course of treatment
4. What diseases do you need to conduct a differential diagnosis?
5. Rules of discharge from hospital.

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Variant No. 59

Station 1

Patient K., age 27, works as a kindergarten teacher, hospitalized in the infectious ward on the 4th day of illness. The disease began acutely with a rise in body temperature to 38.5°C, general malaise, cough. On day 3, the temperature returned to normal. The patient did not consult a doctor, but on the 4th day of the disease again increased body temperature to 39°C, increased catarrhal phenomena, symptoms of intoxication. On day 4, pale pink spots on the ears appeared, which throughout the day spread to the face, neck and upper chest and back. Heart rate 108 per minute, blood pressure 120/70 mm Hg. Heart tones are pure. On auscultation, no murmurs above heart points. In the clinical analysis of blood: leukopenia, lymphocytosis, decrease in the number of eosinophils, monocytes, ESR 20 mm/h.

Questions:

1. Make a clinical diagnosis.
2. Make a plan examination of the patient to confirm the diagnosis, describe the expected results
3. Draw up a treatment plan, indicate the doses of drugs, the frequency of administration, the duration of the course of treatment
4. What diseases do you need to conduct a differential diagnosis?
5. Rules of discharge from hospital.

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Variant No. 60

Station 1

40 years old patient S. works at the meat processing plant. Admitted to the infectious ward with complaints of fever (38-39°C), chills, headache, insomnia, appearance on the face of a reddish-blue spot, that has turned into papules. A day later, a bubble with serous fluid appeared in the center of the papules. A few hours later, a dark ulcer was formed in place of the vesicle, day later ulcer covered with black not painful dense scab. Around the scab appeared new vesicles, and around - a soft, gelatinous consistency edema.

Questions:

1. Make a clinical diagnosis.
2. Make a plan examination of the patient to confirm the diagnosis, describe the expected results
3. Draw up a treatment plan, indicate the doses of drugs, the frequency of administration, the duration of the course of treatment
4. What diseases do you need to conduct a differential diagnosis?
5. Rules of dispensary supervision of the patient.

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