

**MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY
International faculty
Department of Internal Medicine 1**

APPROVED
Acting vice-rector for research and educational work
Eduard Buryachkiy
_____ 2023



**Methodical recommendations for the independent work of higher
education applicants in the academic discipline**

for 6th year, international faculty

Academic discipline: «CURRENT ISSUES OF RHEUMATOLOGICAL PATHOLOGY»
(elective discipline)

The program was discussed and approved at the meeting of the Department of Internal Medicine No. 1, 05.09.2023. Protocol No. 1.

Head of the Department: _____ Yurii KARPENKO



Developers:

Karpenko Yurii Ivanovich, professor
Zolotarova Natalia Artemivna, profesor
Poliakov Anatolii Yevheniiovych, profesor
Izha Hanna Mykolaivna, associate professor
Kryzhanovskyi Yurii Mykolaiovych, associate professor
Pavlovska Kateryna Mykolaivna, associate professor
Potapchuk Oleksandr Vasylovych, associate professor
Savelieva Olha Valeriivna, associate professor
Shukhtina Iryna Mykolaivna, associate professor
Alavatska Tetiana Vasylivna, assistant
Blikhar Olena Volodymyrivna, assistant
Bondarenko Olha Vitaliivna, assistant
Hunenko Iryna Ihorivna, assiatant
Kravtsova Kateryna Volodymyrivna, assistant
Maistrenko Mariia Serhiivna, assistant
Mytrokhina Nadiya Anatoliivna, assistant
Pashaieva Viktoriia Faikivna, assisitant
Riabinina Anna Hennadiivna, assistant
Sukhina Yuliia Oleksandrivna, assistant
Ukhan Viktoriia Viktorivna, assistant
Yanvarova Olha Yuriivna, assistant
Yurdanova Ilona Heorhiivna, assistant
Zolotarova Kseniia Olehivna, assistant

Topic 1: Clinical evaluation of the musculoskeletal system. Inspection, palpation, measurement.

Purpose: to explain the essence of the rheumatological diseases, the causes of its occurrence, the role of various factors in the etiopathogenesis, approaches to diagnosis, treatment and prevention.

Key words: rheumatological diseases, structure of connective, cartilaginous and bone tissues, joint syndrome, the musculoskeletal system, the DAS28 index, the clinical disease activity index (CDAI), the simplified disease activity index (SDAI), the questionnaire for the assessment of the state of health (NAQ), the Laken index, the WOMAS index, the scale gout activity (GAS).

Plan

I. Theoretical questions for the lesson:

1. <https://rheumatology.org/clinical-practice-guidelines>
2. <https://professional.heart.org/en/guidelines-and-statements>
3. Davidson's "Principles of Practice of Medicine" 23rd edition, 2018
4. Harrison's "Principles of internal medicine", 19th edition, 2019.

Questions for self-control

1. Give definition of rheumatic diseases
2. Etiology and pathogenesis of rheumatic diseases
3. To know classification of rheumatic diseases
4. Risk-factors
5. Clinical manifestations of rheumatic diseases
6. Laboratory and instrumental diagnostics of rheumatic diseases
7. Complications of rheumatic diseases
8. Principles and methods of rheumatic diseases treatment.

Approximate tasks for the study of theoretical material

Make a dictionary of basic concepts on the topic:

Term	Definition
anatomy and functions of joints	
rheumatic diseases	
joint syndrome	
the clinical disease activity index (CDAI)	
the simplified disease activity index (SDAI)	

II. Practical work (tasks) that will be performed in class:

Case 1. 60 years old female patient complained of stiffness in small joints of both hands, duration for 2-3 hours, which accompanied by pain, swelling of the these joints, weight loss, decreased appetite, sweating, subfebrile body temperature in the evening. The skin over the joints hyperemic, hot to the touch. Additional research methods: CBC - Hb - 122 g / l, Er 4,3 x 10¹² / lL. 12 x 10⁹/л, e - 2, b- 5, s - 75, lym - 12, m - 6, ESR - 35 mm / h, RF (+), alpha 2 globulin - 14%, CRP ++, on X-rays of hands osteoporosis, subchondral destruction.

1. Primary clinical diagnosis.
2. Plan of additional investigation
3. Treatment.

Case 2. Patient with rheumatoid arthritis in history began to complain of retrosternal pain, shortness of breath on exertion, swelling of lower extremities in the evening. On ECG - a decrease in voltage of all waves.

What is the main complication of the disease have developed in a patient?

III. Test tasks for self-control:

The tests for self-control with standard answers.

1. In the development of the inflammation processes glucocorticoids reduce the level of certain most important active enzyme. It results also in the reducing of the synthesis of prostaglandins and leukotrienes which have a key role in the development of inflammation processes. What is the exact name of this enzyme?
 - A. Phospholipase A2
 - B. Arachidonic acid
 - C. Lipoxygenase
 - D. Cyclooxygenase-1
 - E. Cyclooxygenase-2

2. A patient has an over a year-old history of fast progressive rheumatoid arthritis. X-raying confirms presence of marginal erosions. What basic drug would be the most appropriate in this case?
 - A. Prednisolone
 - B. Chloroquine
 - C. Methotrexate
 - D. Diclofenac sodium
 - E. Aspirin

3. A 35-year-old patient complains about pain and morning stiffness of hand joints and temporomandibular joints that lasts over 30 minutes. She has had these symptoms for 2 years. Objectively: edema of proximal interphalangeal digital joints and limited motions of joints. What examination should be administered?
 - A. Proteinogram
 - B. Complete blood count
 - C. Rose-Waaler's reaction
 - D. Immunogram
 - E. Roentgenography of hands

4. A 31 y.o. woman has complained for 3 years of pain and swelling of radiocarpal and metacarpophalangeal articulations, morning stiffness that lasts up to 1,5 hours. Two weeks ago she felt pain, swelling and reddening of knee joints, body temperature raised up to 37,5⁰C. Examination of her internal organs revealed no pathologic changes. Her diagnosis was rheumatoid arthritis. What changes in X-ray pictures of her joints are the most probable?
 - A. Constriction of joint space, usura
 - B. Constriction of joint space, subchondral osteosclerosis
 - C. Cysts in subchondral bone
 - D. Multiple marginal osteophytes
 - E. Epiphysis osteolysis

5. A 38 year old female patient complains about body stiffness in the morning, especially in the articulations of her upper and lower limbs, that disappears 30-60 minutes later after active movements. She has also arthritis of metacarpophalangeal and proximal phalangeal articulations, subfebrile temperature. ESR- 45 mm/h. Roentgenography revealed osteoporosis and erosion of articular surface of small hand and foot articulations. What is the most probable diagnosis?
 - A. Psoriatic arthropathy
 - B. Rheumatoid arthritis
 - C. Osteoarthritis deformans
 - D. Systemic lupus erythematosus
 - E. Reactive polyarthritis

Recommended reading list

List of recommended literature source:

Basic:

1. 2021 American College of Rheumatology Guideline for the Treatment of Rheumatoid Arthritis / L. Fraenkel, J.M. Bathon, B.R. England et al. // Arthritis Care & Research Vol. 73, No. 7, July 2021, pp 924–939
2. EULAR points to consider for the management of difficult-to-treat rheumatoid arthritis / G.Nagy, N.M.T.Roodenrijs, P.M.J.Welsing et al. // Ann. Rheum. Dis. Published Online First: 18 August 2021. doi:10.1136/annrheumdis-2021-220973
3. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs: 2016 update. Smolen JS, Landewé R, Bijlsma J, et al. Ann Rheum Dis 2017;76:960–977.
4. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs: 2019 update. Smolen JS, Landewé RBM, Bijlsma JWJ, et al. Ann Rheum Dis 2020;79:685–699.

Additional:

1. Rheumatology: Principles and Practice. Ed.by S. Princeton. HAYLE MEDICAL, 2019. 248 p.
2. ABC of Rheumatology, 5th edition. Ed. by A.Adebajo and L.Dunkley. Hoboken, NJ : John Wiley & Sons, Inc., 2018. 209 p.
Rheumatology Secrets, 4th edition. Ed.by S.G. West, J. Kolfenbach. Elsevier, 2020. 744 p.

Topic 2: Interpretation of test results, assessment of disease activity. Evaluation of ECG and ECHO-CG data in rheumatological patients.

Purpose: to explain the essence of the rheumatological diseases, the causes of its occurrence, the role of various factors in the etiopathogenesis, approaches to diagnosis, treatment and prevention.

Key words: rheumatological diseases, structure of connective, cartilaginous and bone tissues, joint syndrome, the musculoskeletal system, the DAS28 index, the clinical disease activity index (CDAI), the simplified disease activity index (SDAI), the questionnaire for the assessment of the state of health (NAQ), the Laken index, the WOMAS index, the scale gout activity (GAS), ECG and ECHO-CG data in rheumatological patients

Plan

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rheumatic diseases	
joint syndrome	
the clinical disease activity index (CDAI)	
the simplified disease activity index (SDAI)	
ECG and ECHO-CG data in rheumatological patients	

II. Practical work (tasks) that will be performed in class:

1. Male, 26 years old, turned to the clinic about pain in his lower back, buttocks and spine, lasting about 1 year. He complains of morning stiffness, with over 2 hours, which decreases after the various movements and exercises. Six months ago, suffered a sudden episode of pain in his right eye, which was regarded as iritis and docked with eye drops containing steroids. Patient's father had a similar pain in the back. On examination, the joints are not swollen. Tomayer's, Schober's symptoms are positive.

1. Primary diagnosis.
2. List diagnostic criteria of the disease.
3. Plan of investigation.
4. Treatment.

2. Male, 26 years old, turned to the clinic about pain in his lower back, buttocks and spine, lasting about 1 year. He complains of morning stiffness, with over 2 hours, which decreases after the various movements and exercises. Six months ago, suffered a sudden episode of pain in his right eye, which was regarded as iritis and docked with eye drops containing steroids. Patient's father had a similar pain in the back. On examination, the joints are not swollen. Tomayer's, Schober's symptoms are positive.

1. Primary diagnosis.
2. List diagnostic criteria of the disease.
3. Plan of investigation.
4. Treatment.

III. Test tasks for self-control:

1. A 22-year-old male develops the insidious onset of low back pain improved with exercise and worsened by rest. There is no history of diarrhea, conjunctivitis, urethritis, eye problems, or nail changes. On exam the patient has loss of mobility with respect to lumbar flexion and extension. He has a kyphotic posture. A plain film of the spine shows widening and sclerosis of the sacroiliac joints. Some calcification is noted in the anterior spinal ligament. Which of the following best characterizes this patient's disease process?

- A. He is most likely to have acute lumbosacral back strain and requires bed rest
- B. The patient has a spondyloarthropathy, most likely ankylosing spondylitis
- C. The patient is likely to die from pulmonary fibrosis and extrathoracic restrictive lung disease
- D. A rheumatoid factor is likely to be positive
- E. A colonoscopy is likely to show Crohn's disease

2. A 22-year-old man presents with complaints of low back pain for 3 to 4 months and stiffness of the lumbar area, which worsen with inactivity. He reports difficulty in getting out of bed in the morning and may have to roll out sideways, trying not to flex or rotate the spine to minimize pain. A lumbosacral (LS) spine X-ray film would most likely show which of the following?

- A. Degenerative joint disease with spur formation
- B. Sacroiliitis with increased sclerosis around the sacroiliac joints
- C. Vertebral body destruction with wedge fractures
- D. Osteoporosis with compression fractures of L3-L5

E. Diffuse osteonecrosis of the LS spine

3. A 23-year-old man with new-onset back and buttock pain presents to his primary care physician for evaluation. He states he has morning stiffness in his back that resolves over the course of the day. Further testing is negative for rheumatoid factor and positive for HLA-B27 surface antigen. For which of the following conditions is the patient at greatest risk?

- A. Aortitis
- B. Splenomegaly
- C. Thrombocytopenia
- D. Uveitis
- E. Xerostomia

4. A 35-year-old patient has been admitted to a hospital for pain in the left sternoclavicular and knee joints, lumbar area. The disease has an acute character and is accompanied by fever up to 38°C. Objectively: the left sternoclavicular and knee joints are swollen and painful. In blood: WBCs - $9,5 \times 10^9/l$, ESR - 40 mm/h, CRP - 1,5 mmol/l, fibrinogen - 4,8 g/l, uric acid - 0,28 mmol/l. Culture test of the urethra reveals *Chlamydia*. What is the most likely diagnosis?

- A. Reiter's syndrome
- B. Rheumatic arthritis
- C. Gout
- D. Bechterew's disease
- E. Rheumatoid arthritis

5. A patient 61 y.old, complains of pain in hands. During examination a swelling and moderate painfulness of distal interphalangeal joints is detected. Diagnosis: Reuter's disease. What data from past history can help to specify the diagnosis?

- A. Conjunctivitis, pericarditis.
- B. Urethritis, cystitis, arthritis.
- C. Conjunctivitis, urethritis, arthritis.
- D. Conjunctivitis, myocarditis.
- E. Pericarditis, myocarditis, arthritis.

6. A patient 30 y.old, has a nonspecific ulcerative colitis. During the last month noted pain in the left ankle joint, which increased at walking. During examination the joint is oedematic, painful at palpation. Choose the preliminary diagnosis of this patient

- A. Reuter's disease.
- B. Bechterew's disease.
- C. Gouty arthritis.
- D. Osteoarthritis.
- E. Reactive arthritis on the background of an intestinal pathology.

List the main features of Recommended reading list

List of recommended literature source:

Basic:

1. Fanouriakis A, Kostopoulou M, Alunno A, et al. 2019 update of the EULAR recommendations for the management of systemic lupus erythematosus. *Ann Rheum Dis* 2019;78:736–745.
2. Aringer M., Costenbader K.H., Daikh D.I. et al. 2019 EULAR/ACR Classification Criteria for Systemic Lupus Erythematosus. *Arthritis Rheumatol.* 2019 September ; 71(9): 1400–1412.
3. *Rheumatology: Principles and Practice*. Ed. by S. Princeton. HAYLE MEDICAL, 2019. 248 p.
4. Sarwar A, Dydyk AM, Jatwani S. Polymyositis. [Updated 2021 Jul 25]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK563129/>

5. Shu-Han Yang, Christopher Chang, Zhe-Xiong Lian, Polymyositis and dermatomyositis – challenges in diagnosis and management, Journal of Translational Autoimmunity, Volume 2, 2019, 100018

Additional:

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Topic 3. Modern approaches to the treatment of rheumatic diseases from the standpoint of evidence-based medicine. The concept of basic therapy. The main groups of basic drugs.

Purpose: to explain the essence of the rheumatological diseases, the causes of its occurrence, the role of various factors in the etiopathogenesis, approaches to diagnosis, treatment and prevention.

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Plan

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Approximate tasks for the study of theoretical material

Make a dictionary of basic concepts on the topic:

Term	Definition
anatomy and functions of joints	
rheumatic diseases	
joint syndrome	
the clinical disease activity index (CDAI)	
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ECG and ECHO-CG data in rheumatological patients	

II. Practical work (tasks) that will be performed in class:

Clinical task №1.

Patient P., aged 32, female, was admitted to hospital in serious condition with complaints of pain in muscles and almost complete immobility, difficulty swallowing, general weakness.

A year ago, there were pain in the legs, then a feeling of weakness, gait became unsteady. A month later, an erythema on the face and neck. Suspected systemic lupus erythematosus. Treatment by prednisolone 15 mg per day without effect, the patient continued to progressively deteriorate, increasing intensity weakness, and soon the patient could not own up to the bus, self-rising from a chair. There were seals in the painful shoulder muscles, with difficulty turned in bed, there were difficulties in swallowing food, liquid food was poured through the nose, appeared hoarseness of voice.

Examination: temperature 37,50, observed seal shoulder muscles, thighs. On palpation painful muscles, there periorbital cyanotic edema, persistent erythema of the face and neck. Joints without visible changes. With great difficulty, raised her head from the bed, could not raise his hands up and hair. The heart was normal. Blood pressure 100/60 mmHg. Liver and spleen were not enlarged.

Blood tests: Er. - $4,0 \cdot 10^{12} / l$, Hb - 120 g / l, L - $9 \cdot 10^9 / l$, ESR - 60 mm / hour. Formula normal. Total protein 80 g / l. Urine: no pathology. ECG: moderate muscle changes. Chest x-ray: signs of left-side exudative pleurisy.

Questions:

1. Primary clinical diagnosis?
2. Plan of additional investigation?
3. Differential diagnosis?
4. Treatment?

Clinical task №2.

Patient S., female. admitted to the clinic with complaints of weakness, weight loss, swelling of the skin hands, forearms, dark skin, chilliness in the tips of the fingers, blanching of fingers on a cold, pain in large joints. Sick for 3 years.

In the beginning appeared chill fingers, cyanosis and blanching in the cold. During the past 3 months, worried about weakness, dense swelling of hands, forearms, the temperature 37.5. The examination at the rheumatology center: CBC – E. $3,1 \cdot 10^{12} / l$, Hb 90 g / l, WBC $8,2 \cdot 10^9 / l$, ESR 53 mm / h. Total protein 86 g / l, globulins 40%, ANF + peripheral glow.

On examination: low-power, skin dark, tough. Enlargement of lymph. nodes PS 96 in 1 min., rhythm., Blood pressure 100/60 mmHg. Borders of the heart are normal. Cardiac sounds are muffled, short systolic sound on apex. Vesicular breathing in lungs. Abdomen: palpation- soft, the liver at the edge of the costal arch.

Questions:

1. Formulate diagnosis?
2. List diagnostic criteria of the disease. What is CREST-syndrome?
3. Standards of examination of patients with this pathology?
4. Standard treatment for patients with this pathology?

III. Test tasks for self-control:

1. Patient P., 37 years old, complains of pain in buttocks, increasing after midnight, with irradiation to the rear surface of hips. Periodically felt pain and slight swelling of small joints of hands. During examination there's limitation of spine mobility, decrease of chest expansion. Your preliminary diagnosis?

- A. Osteoarthritis.
- B. Ankylosing spondylitis.
- C. Rheumatoid arthritis.
- D. Reactive arthritis.
- E. Psoriatic arthritis.

2. A 22-year-old man presents with complaints of low back pain for 3 to 4 months and stiffness of the

lumbar area, which worsen with inactivity. He reports difficulty in getting out of bed in the morning and may have to roll out sideways, trying not to flex or rotate the spine to minimize pain. A lumbosacral (LS) spine X-ray film would most likely show which of the following?

- A. Degenerative joint disease with spur formation
- B. Sacroiliitis with increased sclerosis around the sacroiliac joints
- C. Vertebral body destruction with wedge fractures
- D. Osteoporosis with compression fractures of L3-L5
- E. Diffuse osteonecrosis of the LS spine

3. A 23-year-old man with new-onset back and buttock pain presents to his primary care physician for evaluation. He states he has morning stiffness in his back that resolves over the course of the day. Further testing is negative for rheumatoid factor and positive for HLA-B27 surface antigen. For which of the following conditions is the patient at greatest risk?

- A. Aortitis
- B. Splenomegaly
- C. Thrombocytopenia
- D. Uveitis
- E. Xerostomia

4. A patient, aged 40, has been ill during approximately 8 years, complains of pain in the lumbar part of the spine on physical exertion, in cervical and thoracic part (especially when coughing), pain in the hip and knee joints on the right. On examination: the body is fixed in the forward inclination with head down, gluteal muscles atrophy. Spine X-ray: ribs osteoporosis, longitudinal ligament ossification. What is the most likely diagnosis?

- A. Ankylosing spondyloarthritis
- B. Tuberculous spondylitis
- C. Psoriatic spondyloarthropatia
- D. Spondyloarthropatia on the background of Reiter's disease
- E. Spread osteochondrosis of the vertebral column

5. A 32-year-old male patient has been suffering from pain in the sacrum and coxofemoral joints, pain and stiffness in the lumbar spine for a year. ESR - 56 mm/h. Roentgenography revealed signs of bilateral sacroileitis. The patient is positive of HLA-B27 antigen. What is the most likely diagnosis?

- A. Ankylosing spondylitis
- B. Coxarthrosis
- C. Rheumatoid arthritis
- D. Reiter's disease
- E. Spondylosis

6. A 21 y.o. man complains of having morning pains in his back for the last three months. The pain can be relieved during the day and after physical exercises. Physical examination revealed reduced mobility in the lumbar part of his spine, increase of muscle tonus in the lumbar area and slouch during moving. X-ray pattern of spine revealed bilateral sclerotic changes in the sacrolumbal part. What test will be the most necessary for confirming a diagnosis?

- A. HLA-B27
- B. ESR
- C. Rheumatoid factor
- D. Uric acid in blood plasma
- E. Antinuclear antibodies

7. Patient M., 35 years old, addressed a doctor with complaints to pains in lumbar spine, morning stiffness, pains in buttocks, knee and ankle joints. What kind of study should be conducted for the diagnosis verification?
- X-ray examination of knee joints.
 - X-ray examination of ankle joints.
 - X-ray examination of sacroiliac joints.
 - X-ray examination of a spine.
 - None of them.
8. Patient B., 36 years old, is suspected of having an ankylosing spondylitis. What radiographical sign is compulsory for this disease?
- Usuration.
 - Osteoporosis.
 - Narrowing of a joint space.
 - Periarticular sclerosis.
 - Sacroiliitis.
9. Patient B., 58 years old, doctor, has been having ankylosing spondylitis for 20 years. At present patient has incompetence of joints of III degree. Patient's prognosis
- Favorable.
 - Has to change profession.
 - Loss of working capacity.
 - Doubtful.
 - Recovery.
10. During 10 years patient L., 35 years old, has been having Bechterew's disease. What's the danger of this disease?
- Secondary biliary cirrhosis.
 - Myocardial infarction.
 - Affection of muscles.
 - Ankylosis of joints.
 - Affection of eyes.

Recommended reading list

List of recommended literature source:

Basic:

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Topic 4. Rules for prescribing and selecting adequate doses of glucocorticoids, rules for canceling therapy. Methodology of pulse therapy.

Purpose: to explain the essence of the rheumatological diseases, the causes of its occurrence, the role of various factors in the etiopathogenesis, approaches to diagnosis, treatment and prevention.

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Plan

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Approximate tasks for the study of theoretical material

Make a dictionary of basic concepts on the topic:

Term	Definition
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rheumatic diseases	
joint syndrome	
the clinical disease activity index (CDAI)	
the simplified disease activity index (SDAI)	
ECG and ECHO-CG data in rheumatological patients	
pulse therapy	

II. Practical work (tasks) that will be performed in class:

1. Patient N., female, 43 years old, complaints with the growing general weakness and stiffness, marked limitation of motion in joints of hands and feet, shortness of breath at the slightest exertion and palpitation.

She is ill for 14 years. Disease was preceded by trauma and cooling, and then came the increased chilliness and cyanosis of the fingers, then trophic disorders and dense edema of hands and feet. Later joined by pain in joints and muscles, seal skin, deformity of joints and spine, growing,

general stiffness and immobility. During the illness the patient had lost 30 kg in weight.

Examination: impairment of all the fingers: cold, covered with thick shiny skin, deformity ("bird legs"). A large deformation and shortening of the fingers, they are in palmar flexion. Atrophy of the muscles. Face without mimic, like mask with thinned glossy skin, thinning of the nose, lips, ears and mouth narrow slit.

X-ray of hands: severe deformation with flexion contracture, the narrowing of the joint cavity. Partial osteolysis of terminal phalanges. In the joints of the wrist joint narrowing of gaps. Moderate osteoporosis.

Questions:

1. Primary clinical diagnosis?
2. Plan of investigation for revealing visceral pathology?
3. Differential diagnosis?
4. Treatment?

2. Patient S., aged 48, female, fell ill acutely with increasing temperature to 38,80, progressive weakness, aches in shoulder and pelvic girdle muscle and arthralgia. Then joined purple periorbitale swelling of eyelid skin, erythema on her face, region of seals bluish purple color in the shoulders and hips. Because of the weakness in the muscles could not walk.

In the analysis of blood leukocytosis - $13,6 * 10^9 / L$, moderate anemia (Hb 114 g / l), ESR 32 mm / hour.

In the history: mastopathy within 4 years. Is registered in the Oncology Center.

Questions:

1. Primary clinical diagnosis?
2. Plan of additional investigation?
3. Differential diagnosis?
4. Treatment?
5. Does your patient in the dispensary observation? What experts?

III. Test tasks for self-control:

1. Patient 25 years old 2 weeks after pharyngitis began to complain of increasing temperature to 38 ° C, general weakness, dyspnea, swelling and pain of joints with changeable nature. OBJECTIVE: cyanosis of the lips. Pulse weak filling, rhythmic, 100bpm. Cardiomegaly (the left border of the heart +1 from midclavicular line), apex tone weakened, soft systolic murmur is heard. What is the most likely etiological factor leads to the disease process?

- A. β -hemolytic streptococcus
- B. herpes virus
- C. pneumococcus
- D. staphylococcus
- E. Fungi

2. Female 19 years, complains of pain in the large joints of the upper and lower extremities, fever up to 38,6 ° C. 2 weeks ago, had been ill with angina. Mother suffers rheumatic heart disease. Objectively: in affected joints hyperemia, with light swelling; $t = 37,3^{\circ}C$, pulse 84 bpm, BP 120/70 mmHg. Enlarged left heart border +2 cm, 1 sound on apex of the heart is weakened, systolic murmur; Hb-126g/l, L-9, 2×10^9 , ESR-47 mm/h. ECG - regular rhythm, PQ- 0,24 ". What is the etiology of this disease?

- A. Herpes simplex virus.
- B. Viral and bacterial.
- C. Staphylococcus aureus
- D. Beta-hemolytic streptococcus.
- E. Genetically determined.

3. In the patient on echocardiography was revealed: left atrium 5.0cm, mitral valve fibrotic changed movement valves "P-shaped" back valve - tightened to the front. What kind of change it is?

- A. Mitral Valve Prolapse
- B. Mitral valve insufficiency
- C. Stenosis of the mitral valve orifice
- D. Ventricular septal defect
- E. Atrial septal defect

4. In a woman at the age of 55 during medical examination weakening of the 1st sound over aorta and in the same place rough systolic murmur which irradiated to carotids arterias and to Botkin's point were revealed on auscultation. What valvular heart disease may be suspected?

- A. Mitral stenosis
- B. Combined mitral defect
- C. Mitral regurgitation
- D. Aortic stenosis
- E. Aortic regurgitation

5. Woman 42 years old was admitted to hospital with complaints of dyspnoea and palpitation on exertion. Heart borders were expanded up and to the right, loud I tone at the apex and diastolic thrill were auscultated. Liver was lowered below the costal arch by 5 cm, legs were swollen. What is the reason of heart failure?

- A. Mitral regurgitation
- B. Mitral stenosis
- C. Tricuspid regurgitation
- D. Tricuspid stenosis
- E. Ventricular septal defect

6. 28 years old patient complains of dyspnoea, irregular heartbeat. The apical pulse shifted to the left, weak 1st sound and systolic murmur on the apex were auscultated/ What kind of valve defect is presented?

- A. Aortic stenosis
- B. Mitral stenosis
- C. Mitral regurgitation
- D. Aortic regurgitation
- E. Atrial septal defect

7. Female 34 years old after fall ill after viral infection. Pain in the interphalangeal joints and after 2 weeks in the knee joints, morning stiffness, increased body temperature to 38°C appeared. Objective: interphalangeal, metacarpophalangeal and knee joints swollen, hot to the touch and limited in motion. In the blood: ESR-45 mm/h, CRP+++, reaction Waaler Rose 1:128. What is the mechanism of the disease in this situation?

- A. Allergic
- B. Metabolic
- C. Autoimmune
- D. Dystrophic
- E. Degenerative

Recommended reading list

Basic:

1. Fanouriakis A, Kostopoulou M, Alunno A, et al. 2019 update of the EULAR recommendations for the management of systemic lupus erythematosus. *Ann Rheum Dis* 2019;78:736–745.
2. Aringer M., Costenbader K.H., Daikh D.I. et al. 2019 EULAR/ACR Classification Criteria for Systemic Lupus Erythematosus. *Arthritis Rheumatol.* 2019 September ; 71(9): 1400–1412.
3. *Rheumatology: Principles and Practice.* Ed. by S. Princeton. HAYLE MEDICAL, 2019. 248 p.

4. Sarwar A, Dydyk AM, Jatwani S. Polymyositis. [Updated 2021 Jul 25]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK563129/>
5. Shu-Han Yang, Christopher Chang, Zhe-Xiong Lian, Polymyositis and dermatomyositis – challenges in diagnosis and management, Journal of Translational Autoimmunity, Volume 2, 2019, 100018

Additional:

1. Rheumatology: Principles and Practice. Ed.by S. Princeton. HAYLE MEDICAL, 2019. 248 p.
2. ABC of Rheumatology, 5th edition. Ed. by A.Adebajo and L.Dunkley. Hoboken, NJ : John Wiley & Sons, Inc., 2018. 209 p.
3. Rheumatology Secrets, 4th edition. Ed.by S.G. West, J. Kolfenbach. Elsevier, 2020. 744 p.
4. ABC of Rheumatology, 5th edition. Ed. by A.Adebajo and L.Dunkley. Hoboken, NJ : John Wiley & Sons, Inc., 2018. 209 p.
5. Rheumatology Secrets, 4th edition. Ed.by S.G. West, J. Kolfenbach. Elsevier, 2020. 744 p.

Topic 5. Nonsteroidal anti-inflammatory drugs in rheumatology. Classification, main groups of drugs, indications, contraindications, principles of rational drug selection. Local therapy for rheumatic diseases. Methodology of joint puncture and intra-articular administration of drugs.

Purpose: to explain the essence of the rheumatological diseases, the causes of its occurrence, the role of various factors in the etiopathogenesis, approaches to diagnosis, treatment and prevention.

Key words: rheumatological diseases, structure of connective, cartilaginous and bone tissues, joint syndrome, the musculoskeletal system, the DAS28 index, the clinical disease activity index (CDAI), the simplified disease activity index (SDAI), the questionnaire for the assessment of the state of health (NAQ), the Laken index, the WOMAS index, the scale gout activity (GAS), ECG and ECHO-CG data in rheumatological patients, evidence-based medicine, basic drugs, pulse therapy, glucocorticoids, nonsteroidal anti-inflammatory drugs

Plan

I. Theoretical questions for the lesson:

1. <https://rheumatology.org/clinical-practice-guidelines>
2. <https://professional.heart.org/en/guidelines-and-statements>
3. Davidson’s “Principles of Practice of Medicine” 23rd edition, 2018
4. Harrison’s “Principles of internal medicine”, 19th edition, 2019.

Questions for self-control

1. Give definition of rheumatic diseases
2. Etiology and pathogenesis of rheumatic diseases
3. To know classification of rheumatic diseases
4. Risk-factors
5. Clinical manifestations of rheumatic diseases
6. Laboratory and instrumental diagnostics of rheumatic diseases
7. Complications of rheumatic diseases
8. Principles and methods of rheumatic diseases treatment.

Approximate tasks for the study of theoretical material

Make a dictionary of basic concepts on the topic:

Term	Definition
anatomy and functions of joints	
rheumatic diseases	
joint syndrome	
the clinical disease activity index (CDAI)	
the simplified disease activity index	

(SDAI)	
ECG and ECHO-CG data in rheumatological patients	
pulse therapy	
Classification main groups of drugs	

II. Practical work (tasks) that will be performed in class:

1. Patient P., female, aged 26, was admitted to the cardiology department complaining of pain in the joints, muscles, raising the temperature to 39° , headache, edema, shortness of breath. This condition occurred after insolation.

Objective: the state of medium gravity, hyperemic cheeks, his face puffy, there is edema of the lower extremities, ascites. Blood pressure 160/100 mmHg Pulse 94 per minute. Cardiac sounds weakened. In the lower parts of lungs during percussion shortening of lung sound.

Urinalysis: the relative density 1018, protein 16.2 g / l, red blood cells cover the entire field of view, leucocytes 10 in f/v, cylinders: hyaline and granular 2-3 in f/v

Total protein 56 g / l, cholesterol 8 mmol / l, urea 12 mmol / l, creatinine 0.16 mmol / L, glomerular filtration, 42 ml / min.

Radiologically: the fluid in the pleural cavity, lung fields clear.

Questions:

1. Highlight the main symptoms?
2. What diseases have you suspect?
3. Formulate a primary diagnosis, justify it?
4. What investigation you need for verify the diagnosis?

2. Patient S., aged 28, was admitted to regional hospital with complaints of pain in small joints of hands, low-grade fever, weight loss, hair loss. She felt ill for 10 months. After pregnancy, there were pains in all joints of the hands and feet without swelling, weakness, recurrent episodes of rising temperatures, worsened appetite, was losing weight. When appeared hyperemia of face, swelling of the legs and face, shortness of breath, pain in the lower regions of the thorax visited the doctor.

Objectively: the temperature of 37,7, swelling hands, defiguration of proximal interphalangeal joints, hyperemia of the cheeks, enlargement of the heart to the left, the deaf sounds, tachycardia, systolic murmur on apex. Blood pressure 150/100 mmHg. Vesicular breathing.

Blood tests: Er. - $3.2 \cdot 10^{12}$ / l, Hb - 106 g / l, L. - $3,4 \cdot 10^9$ / l, ESR - 60 mm / hour. Urine: 1016, protein 1.65 g / l, L. - 8-10 in f / v, hyaline cylinders 4-5 f / v.

X-rays of the chest: thickening of the interlobar pleura, high standing of the diaphragm on the right.

Questions:

1. Primary clinical diagnosis?
2. Plan of additional investigation?
3. Differential diagnosis?
4. Treatment?
5. Whether physiotherapy treatment indicated?

III. Test tasks for self-control:

1. 35 years old patient admitted to the hospital with complaints on pain in the left sternoclavicular and knee joints, lower back. Acutely ill, with a temperature rising to 38° C. Objective: left sternoclavicular and knee joints are swollen, painful on palpation. In CBC L.- 9,5G/l, ESR-40 mm/h, fibrinogen - 4.8 g/l, uric acid - 0.28 mmol/l. In scrapings from the urethra - chlamydia. What is the diagnosis in this case?

- A. rheumatoid arthritis
- B. Ankylosing spondylitis
- C. gout
- D. Reiter's syndrome

E. rheumatic arthritis

2. Youth 16 years old admitted to the rheumatology department with complaints on pain in the large joints, swelling and redness of the left knee joint, temperature 37.90C. The abovementioned complaints appeared 5 days ago, after suffering quinsy. What is the most likely diagnosis?

- A. Reactive arthritis
- B. Rheumatoid arthritis
- C. Deforming arthrosis
- D. Gout
- E. Rheumatoid arthritis.

3. 34 years old patient complains on pain in the knee and ankle joints in motion, burning eyes and cramps when urinating. Objectively: the left knee joint increased in volume, the skin over it hyperemic, hot to the touch, movement in the joint is limited due to pain. Conjunctival hyperemia, urethral mucous and serous discharge. What type of pathogen is most likely to be determined in the study of scrapings from the urethra?

- A. gonococcus
- B. chlamydia
- C. staphylococcus
- D. mycoplasma
- E. Trichomonas

4. 25 years old patient noted burning in the urethra, which increased when urinating. After playing football there was a sharp pain in the Achilles tendon and in right knee, it's swelling, subfebrile temperature. In the CBC was revealed: elevated ESR, leukocytosis with a left shift. The most likely diagnosis?

- A. traumatic arthritis
- B. tubercular arthritis
- C. Rheumatic arthritis of the knee
- D. rheumatoid arthritis
- E. reactive arthritis

5. The patient, 25 years old, complains on pain in the tibial joints, increasing the temperature to 38°C, discomfort sensations in the eyes, "the eyes are full of sand." Objective: increased tibial joints, restricted movement in them. What is the diagnosis in the patient?

- A. Reiter's disease
- B. rheumatism
- C. rheumatoid arthritis
- D. osteoarthritis
- E. gout

6. The patient, 25 years old, complains on pain in the tibial joints, increasing the temperature to 38 °C, discomfort sensations in the eyes, "the eyes are full of sand." Objective: increased tibial joints, restricted movement in them. Which examinations should be hold on?

- A. Complete blood count
- B. Reaction Vaal – Rouse
- C. Urethral swab for chlamydia
- D. proteinogram
- E. immunogram

7. A patient 40 years old is ill for 8 years. Complains on pain in the lumbar area during exercise, in the cervical and thoracic region, especially when coughing, pain in the right hip and knee joints. Objectively: the trunk is fixed in position forward inclination with lowered head, atrophy of the gluteal muscles. X-ray of the spine: osteoporosis of the vertebrae, ossification of the longitudinal ligament. Which one is most likely diagnosis?

- A. ankylosing spondylitis
- B. tubercular spondylitis
- C. psoriatic spondyloarthropathy

- D. Spondyloarthropathy on the background of Reiter's disease
 E. osteochondrosis
8. Female 22 years old admitted to the rheumatology department with complaints on pain in the joints, swelling of the large joints, redness of right ankle, weakness, T-39,60C. The abovementioned complaints appeared 3 days before admission to the hospital, after a sore throat. ESR-32mm/h. Your preliminary diagnosis?
 A. Gout
 B. Rheumatoid arthritis
 C. deforming arthrosis
 D. Scleroderma
 E. Reactive arthritis
9. 17 years old young man went to the doctor complaining on pain and swelling in the right ankle. There was no Injury. Two weeks ago was treated for conjunctivitis. On examination - right ankle enlarged due to edema, hyperemia of the skin, the local temperature is increased. Active movements are limited, painful. In the CBC: leukocytes-11G/l, ESR -24 mm/h. In general analysis of urine: protein - 0.088 g/L, WBC 10-12 in the field of vision, RBC-0-1 in the field of vision. Select the most likely diagnosis.
 A. gouty arthritis
 B. rheumatic arthrosis
 C. rheumatoid arthritis
 D. reactive arthritis
 E. deforming arthritis
10. 35 years old patient admitted to the hospital with complaints on pain in the left sternoclavicular and knee joints, lower back. Acutely ill, with a temperature rising to 38°C. Objective: left sternoclavicular and knee joints are swollen, painful on palpation. In CBC: L.- 9,5 G/l, ESR-40 mm/h, fibrinogen - 4.8 g/l, uric acid - 0.28 mmol/l. In scrapings from the urethra - chlamydia. Which group of antibacterial drugs will be most effective in this case?
 A. semisynthetic penicillins
 B. Cephalosporins
 C. Tetracyclines
 D. Fluoroantiseptics
 E. Aminoglycosides
11. Youth 18 years admitted to the rheumatology department with complaints on pain in the large joints, swelling and redness of the left knee joint, discomfort when urinating, "dry eyes", increasing of the temperature to 37.9°C. He told that he had unprotected sex with three women. What is the most likely diagnosis?
 A. Reiter's disease.
 B. Rheumatoid arthritis.
 C. Deforming arthrosis .
 D. Gout .
 E. Rheumatoid arthritis.

Recommended reading list

Basic:

1. Fanouriakis A, Kostopoulou M, Alunno A, et al. 2019 update of the EULAR recommendations for the management of systemic lupus erythematosus. *Ann Rheum Dis* 2019;78:736–745.
2. Aringer M., Costenbader K.H., Daikh D.I. et al. 2019 EULAR/ACR Classification Criteria for Systemic Lupus Erythematosus. *Arthritis Rheumatol.* 2019 September ; 71(9): 1400–1412.
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5. Rheumatology Secrets, 4th edition. Ed.by S.G. West, J. Kolfenbach. Elsevier, 2020. 744 p.
- 6.

Topic 6. X-ray examination of joints, specific X-ray signs in various rheumatic diseases. X-ray stages of rheumatological diseases. Magnetic resonance imaging, computer tomography in rheumatology.

Purpose: to explain the essence of the rheumatological diseases, the causes of its occurrence, the role of various factors in the etiopathogenesis, approaches to diagnosis, treatment and prevention.

Key words: rheumatological diseases, structure of connective, cartilaginous and bone tissues, joint syndrome, the musculoskeletal system, the DAS28 index, the clinical disease activity index (CDAI), the simplified disease activity index (SDAI), the questionnaire for the assessment of the state of health (NAQ), the Laken index, the WOMAS index, the scale gout activity (GAS), ECG and ECHO-CG data in rheumatological patients, evidence-based medicine, basic drugs, pulse therapy, glucocorticoids, nonsteroidal anti-inflammatory drugs

Plan

I. Theoretical questions for the lesson:

1. <https://rheumatology.org/clinical-practice-guidelines>
2. <https://professional.heart.org/en/guidelines-and-statements>
3. Davidson’s “Principles of Practice of Medicine” 23rd edition, 2018
4. Harrison’s “Principles of internal medicine”, 19th edition, 2019.

Questions for self-control

1. Give definition of rheumatic diseases
2. Etiology and pathogenesis of rheumatic diseases
3. To know classification of rheumatic diseases
4. Risk-factors
5. Clinical manifestations of rheumatic diseases
6. Laboratory and instrumental diagnostics of rheumatic diseases
7. Complications of rheumatic diseases
8. Principles and methods of rheumatic diseases treatment.

Approximate tasks for the study of theoretical material

Make a dictionary of basic concepts on the topic:

Term	Definition
anatomy and functions of joints	
rheumatic diseases	
joint syndrome	
the clinical disease activity index (CDAI)	
the simplified disease activity index (SDAI)	
ECG and ECHO-CG data in rheumatological patients	

pulse therapy	
Classification main groups of drugs	

II. Practical work (tasks) that will be performed in class:

1. The patient, 58 years old, overweight. Complains of pain in the knee joints, aggravated by walking, particularly on stairs. Ill about 7 years. Last 10 days indicated moderate redness of the skin in the area of the knee, swelling, more pronounced dysfunction. OBJECTIVE. Knee joints are deformed, swollen, active and passive movements of the joints is limited by pain, mild muscle atrophy. Uric acid levels are not elevated. In blood indicated a slight leukocytosis, elevated ESR 18 mm/h. Radiological: joint space narrowing in 2-3 times, subchondral sclerosis, osteophytes expressed.

Questions.

1. To formulate the diagnosis.
2. Identify plan of treatment.

2. A 60-year-old woman presents complaining of bilateral knee pain on most days of the past few months. The pain was gradual in onset. The pain is over the anterior aspect of the knee and gets worse with walking and going up and down stairs. She complains of stiffness in the morning that lasts for a few minutes and a buckling sensation at times in the right knee. On examination, there is a small effusion, diffuse crepitus, and limited flexion of both knees. Joint tenderness is more prominent over the medial joint line bilaterally. She has a steady but slow gait, slightly favouring the right side.

Questions:

1. Specify the preliminary diagnosis
2. Assign adiagnosticinvestigations
3. Differential diagnosis
4. Assign treatment

III. Test tasks for self-control:

1. A 60-year-old male complains of pain in both knees coming on gradually over the past 2 years. The pain is relieved by rest and worsened by the movement. There is bony enlargement of the knees with mild inflammation. Crepitation is noted on motion of the knee joint. There are no other findings except for bony enlargement at the distal interphalangeal joint. The patient is 167 cm tall and weighs 101 kg. The best way to prevent disease progression is

- A. Weight reduction
- B. Calcium supplementation
- C. Total knee replacement
- D. Aspirin
- E. Oral prednisone

2. A 72-year-old man complains of painful joints in his hips and knees, which you have diagnosed as osteoarthritis. Which of the following is the best agent to prescribe for this patient?

- A. Naproxen sodium
- B. Celecoxib
- C. Oral prednisone
- D. Intra-articular prednisone
- E. Acetaminophen

3. A 58-year-old woman has pain and stiffness in her hands that increases throughout the day. Physical examination shows bony enlargement of the distal interphalangeal joints. X-rays of the hands show joint space narrowing with subchondral sclerosis.

- A. Ankylosing spondylitis
- B. Fibromyalgia
- C. Gonococcal arthritis

- D. Gout
- E. Osteoarthritis

4. A patient 50 y.old, having super nutrition, alcohol abusing, complains of periodical pain in knee and hip joints. Pain increases at walking, flexion of legs. No changes from internal organs revealed. Indicate the most probable diagnosis:

- A. Bechterew's disease.
- B. Osteoarthritis/
- C.Rheumatoid joint inflammation.
- D. Gouty arthritis.
- E. Rheumatic arthritis.

5. A patient 66 y.old, complains of pains in knee joints at descent down the stairs. Except this, is disturbed by pains in distal parts of fingers, mainly at motion. During examination there are indurations and deformation in finger phalanxes. Indicate the preliminary diagnosis of a patient

- A. Osteoarthritis deformans.
- B. Gout arthritis.
- C. Rheumatic arthritis.
- D. Bechterew's disease.
- E. Reactive arthritis.

Recommended reading list

Basic:

1. Nikiphorou E, Santos EJF, Marques A, et al. 2021 EULAR recommendations for the implementation of self-management strategies in patients with inflammatory arthritis. *Annals of the Rheumatic Diseases* 2021; 80: 1278-1285.
2. Uson J, Rodriguez-García SC, Castellanos-Moreira R, et al. EULAR recommendations for intra-articular therapies. *Annals of the Rheumatic Diseases* 2021; 80: 1299-1305.
3. Kloppenburg M, Kroon FP, Blanco FJ, et al. 2018 update of the EULAR recommendations for the management of hand osteoarthritis. *Annals of the Rheumatic Diseases* 2019; 78: 16-24.
4. Kolasinski, S.L., Neogi, T., Hochberg, M.C. et al. 2019 American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee. *Arthritis Rheumatol*, 72: 220-233.
5. *Rheumatology: Principles and Practice*. Ed.by S. Princeton. HAYLE MEDICAL, 2019. 248 p.
6. *ABC of Rheumatology*, 5th edition. Ed. by A.Adebajo and L.Dunkley. Hoboken, NJ : John Wiley & Sons, Inc., 2018. 209 p.
7. *Rheumatology Secrets*, 4th edition. Ed.by S.G. West, J. Kolfenbach. Elsevier, 2020. 744 p.

Additional:

1. Kelley and Firestein's *Textbook of Rheumatology*. 10th ed. / G.S. Firestein, I.B.McInnes et al. – Elsevier Health Sciences, 2017. - 1794 p.
2. *Therapeutic Guidelines Rheumatology*. – Therapeutic Guidelines Limited, 2017. – 335 p.
3. *USMLE Step 2 CK Lecture Notes 2017: Internal Medicine*. – Kaplan Inc., 2016. – 473 p.

Topic 7. Osteoarthritis. Main links of etiology and pathogenesis. Diagnosis and treatment according to modern protocols and clinical guidelines.

Purpose: to explain the essence of the rheumatological diseases, the causes of its occurrence, the role of various factors in the etiopathogenesis, approaches to diagnosis, treatment and prevention.

Key words: rheumatological diseases, structure of connective, cartilaginous and bone tissues, joint syndrome, the musculoskeletal system, the DAS28 index, the clinical disease activity index (CDAI), the simplified disease activity index (SDAI), the questionnaire for the assessment of the state of health (NAQ), the Laken index, the WOMAS index, the scale gout activity (GAS), ECG and

ECHO-CG data in rheumatological patients, evidence-based medicine, basic drugs, pulse therapy, glucocorticoids, nonsteroidal anti-inflammatory drugs

Plan

I. Theoretical questions for the lesson:

1. <https://rheumatology.org/clinical-practice-guidelines>
2. <https://professional.heart.org/en/guidelines-and-statements>
3. Davidson’s “Principles of Practice of Medicine” 23rd edition, 2018
4. Harrison’s “Principles of internal medicine”, 19th edition, 2019.

Questions for self-control

1. Give definition of rheumatic diseases
2. Etiology and pathogenesis of rheumatic diseases
3. To know classification of rheumatic diseases
4. Risk-factors
5. Clinical manifestations of rheumatic diseases
6. Laboratory and instrumental diagnostics of rheumatic diseases
7. Complications of rheumatic diseases
8. Principles and methods of rheumatic diseases treatment.

Approximate tasks for the study of theoretical material

Make a dictionary of basic concepts on the topic:

Term	Definition
anatomy and functions of joints	
rheumatic diseases	
joint syndrome	
the clinical disease activity index (CDAI)	
the simplified disease activity index (SDAI)	
ECG and ECHO-CG data in rheumatological patients	
pulse therapy	
Classification main groups of drugs	

II. Practical work (tasks) that will be performed in class:

1. A 55-year-old woman has been complaining of pain and swelling in several fingers of both hands for the past 2 months. She describes morning stiffness lasting for 30 minutes. Her mother tells her that she had a similar condition at the same age. She denies any other joint pain or swelling. On examination, she has tenderness, slight erythema, and swelling in one PIP joint and two DIP joints in each hand. She has squaring at the base of her right thumb (the first carpometacarpal joint). There is no swelling or tenderness in her MCP joints.

Questions:

1. Specify the preliminary diagnosis
2. Differential diagnosis
3. Assign treatment
4. Does patient need physiotherapy?

2 Patient P., female, aged 26, was admitted to the cardiology department complaining of pain in the joints, muscles, raising the temperature to 39⁰, headache, edema, shortness of breath. This condition occurred after insolation.

Objective: the state of medium gravity, hyperemic cheeks, his face puffy, there is edema of the lower extremities, ascites. Blood pressure 160/100 mmHg Pulse 94 per minute. Cardiac sounds weakened. In the lower parts of lungs during percussion shortening of lung sound.

Urinalysis: the relative density 1018, protein 16.2 g / l, red blood cells cover the entire field of view, leucocytes 10 in f/v, cylinders: hyaline and granular 2-3 in f/v

Total protein 56 g / l, cholesterol 8 mmol / l, urea 12 mmol / l, creatinine 0.16 mmol / L, glomerular filtration, 42 ml / min.

Radiologically: the fluid in the pleural cavity, lung fields clear.

Questions:

1. Highlight the main symptoms?
2. What diseases have you suspect?
3. Formulate a primary diagnosis, justify it?
4. What investigation you need for verify the diagnosis?

III. Test tasks for self-control:

1. Patient P., 37 years old, complains of pain in buttocks, increasing after midnight, with irradiation to the rear surface of hips. Periodically felt pain and slight swelling of small joints of hands. During examination there's limitation of spine mobility, decrease of chest expansion. Your preliminary diagnosis?

- A. Osteoarthritis.
- B. Ankylosing spondylitis.
- C. Rheumatoid arthritis.
- D. Reactive arthritis.
- E. Psoriatic arthritis.

2. A 22-year-old man presents with complaints of low back pain for 3 to 4 months and stiffness of the lumbar area, which worsen with inactivity. He reports difficulty in getting out of bed in the morning and may have to roll out sideways, trying not to flex or rotate the spine to minimize pain. A lumbosacral (LS) spine X-ray film would most likely show which of the following?

- A. Degenerative joint disease with spur formation
- B. Sacroiliitis with increased sclerosis around the sacroiliac joints
- C. Vertebral body destruction with wedge fractures
- D. Osteoporosis with compression fractures of L3-L5
- E. Diffuse osteonecrosis of the LS spine

3. A 23-year-old man with new-onset back and buttock pain presents to his primary care physician for evaluation. He states he has morning stiffness in his back that resolves over the course of the day. Further testing is negative for rheumatoid factor and positive for HLA-B27 surface antigen. For which of the following conditions is the patient at greatest risk?

- A. Aortitis
- B. Splenomegaly
- C. Thrombocytopenia
- D. Uveitis
- E. Xerostomia

4. A patient, aged 40, has been ill during approximately 8 years, complains of pain in the lumbar part of the spine on physical exertion, in cervical and thoracic part (especially when coughing), pain in the hip and knee joints on the right. On examination: the body is fixed in the forward inclination with head down, gluteal muscles atrophy. Spine X-ray: ribs osteoporosis, longitudinal ligament ossification. What is the most likely diagnosis?

- A. Ankylosing spondyloarthritis
- B. Tuberculous spondylitis
- C. Psoriatic spondyloarthropatia
- D. Spondyloarthropatia on the background of Reiter's disease
- E. Spread osteochondrosis of the vertebral column

5. A 32-year-old male patient has been suffering from pain in the sacrum and coxofemoral joints, pain

and stiffness in the lumbar spine for a year. ESR - 56 mm/h. Roentgenography revealed signs of bilateral sacroileitis. The patient is positive of HLA-B27 antigen. What is the most likely diagnosis?

- A. Ankylosing spondylitis
- B. Coxarthrosis
- C. Rheumatoid arthritis
- D. Reiter's disease
- E. Spondylosis

6. A 21 y.o. man complains of having morning pains in his back for the last three months. The pain can be relieved during the day and after physical exercises. Physical examination revealed reduced mobility in the lumbar part of his spine, increase of muscle tonus in the lumbar area and sluch during moving. X-ray pattern of spine revealed bilateral sclerotic changes in the sacrolumbal part. What test will be the most necessary for confirming a diagnosis?

- A. HLA-B27
- B. ESR
- C. Rheumatoid factor
- D. Uric acid in blood plasma
- E. Antinuclear antibodies

7. Patient M., 35 years old, addressed a doctor with complaints to pains in lumbar spine, morning stiffness, pains in buttocks, knee and ankle joints. What kind of study should be conducted for the diagnosis verification?

- A. X-ray examination of knee joints.
- B. X-ray examination of ankle joints.
- C. X-ray examination of sacroiliac joints.
- D. X-ray examination of a spine.
- E. None of them.

8. Patient B., 36 years old, is suspected of having an ankylosing spondylitis. What radiographical sign is compulsory for this disease?

- A. Usuration.
- B. Osteoporosis.
- C. Narrowing of a joint space.
- D. Periarticular sclerosis.
- E. Sacroiliitis.

9. Patient B., 58 years old, doctor, has been having ankylosing spondylitis for 20 years. At present patient has incompetence of joints of III degree. Patient's prognosis

- A. Favorable.
- B. Has to change profession.
- C. Loss of working capacity.
- D. Doubtful.
- E. Recovery.

10. During 10 years patient L., 35 years old, has been having Bechterew's disease. What's the danger of this disease?

- A. Secondary biliary cirrhosis.
- B. Myocardial infarction.
- C. Affection of muscles.
- D. Ankylosis of joints.
- E. Affection of eyes.

Recommended reading list

Basic:

1. Nikiphorou E, Santos EJF, Marques A, et al. 2021 EULAR recommendations for the implementation of self-management strategies in patients with inflammatory arthritis. *Annals of the Rheumatic Diseases* 2021; 80: 1278-1285.
2. Uson J, Rodriguez-García SC, Castellanos-Moreira R, et al. EULAR recommendations for intra-articular therapies. *Annals of the Rheumatic Diseases* 2021; 80: 1299-1305.
3. Kloppenburg M, Kroon FP, Blanco FJ, et al. 2018 update of the EULAR recommendations for the management of hand osteoarthritis. *Annals of the Rheumatic Diseases* 2019; 78: 16-24.
4. Kolasinski, S.L., Neogi, T., Hochberg, M.C. et al. 2019 American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee. *Arthritis Rheumatol*, 72: 220-233.
5. *Rheumatology: Principles and Practice*. Ed. by S. Princeton. HAYLE MEDICAL, 2019. 248 p.
6. *ABC of Rheumatology*, 5th edition. Ed. by A.Adebajo and L.Dunkley. Hoboken, NJ : John Wiley & Sons, Inc., 2018. 209 p.
7. *Rheumatology Secrets*, 4th edition. Ed. by S.G. West, J. Kolfenbach. Elsevier, 2020. 744 p.

Additional:

1. Kelley and Firestein's *Textbook of Rheumatology*. 10th ed. / G.S. Firestein, I.B. McInnes et al. – Elsevier Health Sciences, 2017. - 1794 p.
2. *Therapeutic Guidelines Rheumatology*. – Therapeutic Guidelines Limited, 2017. – 335 p.
3. *USMLE Step 2 CK Lecture Notes 2017: Internal Medicine*. – Kaplan Inc., 2016. – 473 p.

Topic 8. Gout. Etiology and pathogenesis. Criteria for making a diagnosis. Features of treatment of an acute gout attack. Medical control of uric acid level

The main goals: to indicate the relevance of the topic, know the peculiarities of etiology and pathogenesis of gout, know the risk factors for the development of gout, know the diagnostic criteria, know clinical classification, clinical manifestations of various forms, be able to provide differential diagnosis, learn main methods of treatment.

Key words: gout, joints syndrome, uric acid metabolism.

Plan:

I. Theoretical questions for the lesson:

1. <https://guidelines.moz.gov.ua/documents/3304>
2. *Harrison's Principles of Internal Medicine*, Twentieth Edition (Vol.1 & Vol.2) 20th Edition
3. *Davidson's Principles and Practice of Medicine: With Student Consult Online Access (Principles & Practice of Medicine (Davidson's))* 21st Edition.

Questions for self-control:

- 1) Gout: the prevalence of gout in the world and in Ukraine among people of different ages and sexes.
- 2) The main issues of etiology, phases of gout pathogenesis.
- 3) Uric acid metabolism.
- 4) Pathomorphological changes in acute gouty arthritis and chronic gout.
- 5) Clinical classification of gout (ARU).
- 6) Variants of the onset of gout, clinical picture of acute gouty arthritis, inter-attack and chronic gout.
- 7) Classification criteria for the diagnosis of gout.

- 8) Laboratory and instrumental methods of examining a patient with gout.
- 9) General principles of gout treatment, treatment of acute gouty arthritis and recommendations for hypouricemic therapy.
- 10) Criteria for the effectiveness of basic therapy.

Approximate tasks for the study of theoretical material:

Make a dictionary of basic concepts on the topic:

Term	Definition
Gout	
Uric acid	
Gouty nephropathy	
Tophi	
Acute gouty arthritis	
Nephrolithiasis	
"punch" symptom	

II. Practical work (tasks) that will be performed in class:

Clinical task 1:

The patient is 61 years old. Complaints of sharp pain in the right foot, acute at night. In the past he suffered two attacks of renal colic. Abused alcohol. For 5 years – pain in the epigastric region. 3 years – shortness of breath on exertion. Objectively: body weight 98 kg, height – 170 cm. In the area of the right metatarsophalangeal joint there is redness, swelling, sharp pain when moving. Tophus on the right earlobe. Blood pressure 190/105 mm Hg. ECG: left ventricular hypertrophy. Blood sodium – 145 mmol/l, potassium – 4.8 mmol/l, creatinine 90 μmol/l, uric acid – 595 μmol/l.

Make a diagnosis.

Explain the pathogenesis of acute arthritis.

How can obesity and hypertension be explained?

Prescribe treatment.

Possible cause of renal colic?

What examinations still need to be carried out?

What is the likely duration of the process?

Clinical task 2:

A 37-year-old patient, who works as a turner, consulted a local physician with complaints of acute, severe pain in the right elbow joint, significant swelling with skin hyperemia and a sharp limitation of movements. Within 2 days, body temperature rises to 40°C, general malaise. The exacerbation is associated with hypothermia. Similar attacks used to occur 1-2 times a year, but affected the knee joints or big toe. Working capacity during the interictal period is not limited. My father had a similar disease. Objectively: In the area of the right elbow joint there is extensive swelling, hyperemia, limited range of motion with severe pain. In an. blood: leukemia - 10.3 thousand, p/o - 8, s/o - 72, e-3, m-4, l-12, ESR 34 mm/h. In blood: uric acid 0.68 m Mol/l, C-reactive protein (+++), fibrinogen 6800 mg/l.

Make a diagnosis.

Prescribe treatment.

Recommended preventive measures.

Clinical task 3:

Patient Abramov A., 42 years old, was admitted with complaints of the sudden onset of attacks of severe pain in the big toe, its swelling and redness, headache, fatigue, weakness, and an increase in body temperature to 38°C. The deterioration is associated with alcohol consumption in the last 3 days. Objectively: The skin is moist, body temperature is 38°C. The skin over the joint is shiny, bluish-purple in color, and hot. Movement in the joint is severely limited due to pain. Complete blood count: leukocytes $11.8 \times 10^9/l$, ESR 36 mm/h. Blood test: CRP +, uric acid 0.65 mmol/l, sialic acids 180 units.

1. What drug should be prescribed to the patient to reduce joint pain?
2. Which nonsteroidal anti-inflammatory agent should be prescribed to a patient to relieve acute pain?
3. Which nonsteroidal anti-inflammatory agent nonspecifically inhibits both cyclooxygenase isoforms and can be prescribed to a patient to relieve pain?
4. Taking what drug prescribed to the patient increases the risk of developing peptic ulcers?
5. Which selective cyclooxygenase-2 inhibitor will help relieve pain in a patient?

III. Test tasks for self-control:

1. The most typical radiological changes in gout:

- A. Narrowing of joint spaces.
- B. Intraosseous cyst-like clearings.
- B. Bone ankylosis.
- G. Osteophytes.
- D. Calcification of cartilage.

2. Gout is most often combined with:

- A. Arterial hypertension.
- B. COPD.
- B. Diabetes mellitus.
- G. Atherosclerosis.
- D. Stomach ulcer.

3. When starting treatment with antihyperuricemic drugs, acute gouty arthritis may develop. Prescribing what medications can reduce the risk of its occurrence?

- A. NSAIDs.
- B. Glucocorticosteroids.
- B. Colchicine.
- G. Cytostatics.
- D. Chondroprotectors.

3. What foods should be excluded from the diet of a patient with gout?

- A. Liver, kidneys.
- B. Legumes.
- C. Dairy products.
- G Coffee, cocoa.
- D. Fruits.

4. Gouty nephropathy is not characterized by:

- A. Moderate proteinuria.
- B. Hematuria.

- C. Edema of the lower extremities.
- D. Development of arterial hypertension.
- E. Development of nephrotic syndrome.

5. In the synovial fluid of patients with gout the following is found:

- A. Leukocytosis.
- B. Ragoocytes.
- B. Needle-shaped crystals of urate.
- G. RF.
- D. Antibodies to DNA.

6. Which of the following is not a criteria for gout?

- A. Damage to the joints of the hands.
- B. History of more than 1 attack of acute arthritis.
- B. Hyperemia of the skin over the inflamed joint.
- D. Damage to 3 or more joints.
- C. Swelling and pain in the first metatarsophalangeal joint.

7. Secondary hyperproduction of uric acid occurs when:

- A. Leukemia.
- B. Multiple myeloma.
- B. Carrying out antitumor chemotherapy.
- D. Chronic renal failure.
- E. Psoriasis.

8. The main clinical manifestations of gout:

- A. Arthritis.
- B. Spondylitis.
- B. Nephropathy.
- G. Tophi.
- D. Cutaneous vasculitis.

9. To relieve acute gouty arthritis use:

- A. Colchicine.
- B. NSAIDs.
- C. Corticosteroids.
- G. Allopurinol.
- D. All of the above drugs.

10. What types of kidney damage are typical for gout?

- A. Nephrolithiasis.
- B. Chronic interstitial nephritis.
- C. Renal amyloidosis.
- D. Chronic renal failure.
- E. Glomerulosclerosis.

IV. Individual tasks for applicants on the topic of the lesson:

Variant 1.

Task 1.

Fill in the classification table:

Categories	Classification signs

By etiology:	
By pathogenesis:	
By periods of illness:	
According to clinical forms:	
According to severity:	
By type of joint damage:	

Task 2.

Fill in the table of atypical forms of the first attack of gouty arthritis:

Form	Description
1) rheumatoid-like	
2) pseudophlegmonous	
3) polyarthritis, reminiscent of rheumatic or reactive arthritis	
4) subacute	
5) asthenic	
6) periartritic	

Task 3.

List the main directions of non-medical treatment of gout:

- _____
- _____
- _____
- _____
- _____

Task 4.

Fill in the table:

Groups of drugs for therapy

Variant 2.

Task 1.

American Rheumatological Association Diagnostic Criteria for Gout:

1. The presence of characteristic crystalline urates in the joint fluid and/or
2. Presence of tophi (proven) containing crystalline urates, confirmed chemically or by polarization

microscopy, and/or

3. Presence of 6 out of 12 presented signs:

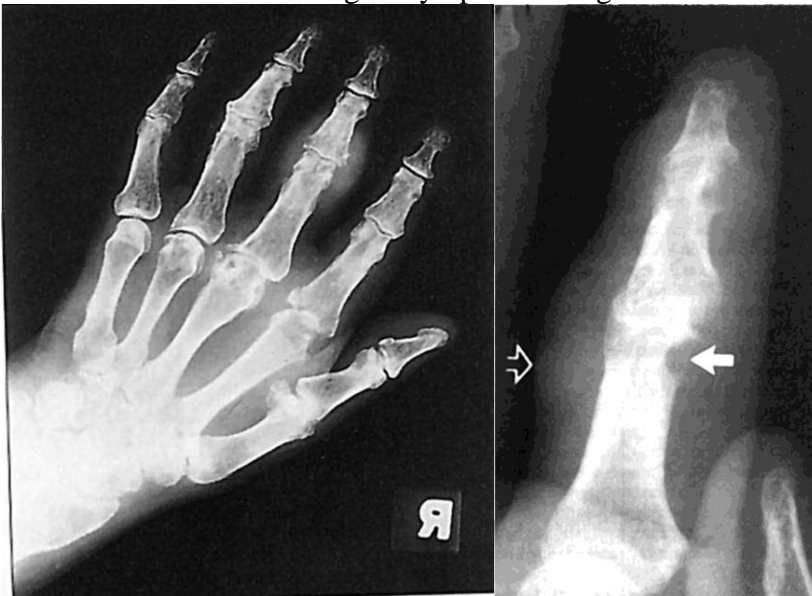
Task 2.

According to the radiological dynamics of changes in the bone and joint apparatus, it is customary to distinguish three stages:

- 1.-
- 2.-
- 3.-

Task 3.

Name and describe radiological symptoms of gout:



Task 4.

Fill in the table of treatment:

Drug	Method of use, dose	Indication

Recommended reading list:

Basic:

1. Rheumatology [Text]: teaching. manual / V. G. Psaryova, N. M. Kyrychenko, O. S. Pogorelova [and others]; in general ed. L. N. Prystupy, G. A. Fadeeva. - Sumy: Sumy State University, 2019. - 235 p. - 175-80
2. Internal medicine: Rheumatology: study guide (University of postgraduate education) / V.E.Kondratyuk, M.B.Jus. - K.: Medicine. 2017. - 272 p.
3. Diagnosis and treatment of rheumatic diseases: study guide / A.S. Svintsitskyi. - K.: Medknyga Publishing House, 2017.-372 p.
4. Perederii V.G. Basics of internal medicine: a textbook. Volume 2. Diseases of the circulatory system. Rheumatic diseases. Kidney disease. General questions of internal medicine / Perederii V.G., Tkach S.M.– Vinnytsia: New book. 2018. – 640 p.
5. Internal diseases: national. textbook. in 2 parts. Part 1. Chapters 1-8 / L.V. Glushko, S.F. Fedorov, I.M. Skrypnyk, M.M. Ostrovsky // edited by L.V. Glushka-K.: Medicine. 2019. - 680 p.

Additional:

1. Internal medicine: Part 1: textbook for English-speaking students of higher medical schools / ed. by M. A. Stanislavchuk, V. K. Sierkova. - Vinnytsya: Nova Knyha, 2019. - P. 1: Cardiology. Rheumatology. Hematology. - 407 p.
2. Family Medicine in 3 books. Book 2. Symptoms and syndromes in the clinical course of Internal Diseases. / edited by O.M. Hyrina, professor L.M. Pasiyeshvili. Medicine, 2018. - 376
3. Harrison's Principles of Internal Medicine Self-Assessment and Board Review, 19th Edition by Stephen L. Hauser, Charles Wiener, Anthony S. Fauci, Cynthia Brown and Dennis L. Kasper. 2017. 672

Topic 9.Rheumatoid arthritis. Etiology and pathogenesis of the disease. Current principles of diagnosis and treatment.

The main goals: to indicate the relevance of the topic, know the peculiarities of etiology and pathogenesis of rheumatoid arthritis, know the risk factors for the development of rheumatoid arthritis, know the diagnostic criteria, know clinical classification, clinical manifestations of various forms, be able to provide differential diagnosis, learn main methods of treatment.

Key words: rheumatoid arthritis, joints syndrome, autoimmune process.

Plan:

I. Theoretical questions for the lesson:

1. <https://www.dec.gov.ua/mtd/revmatoyidnyj-artryt/>
2. Harrison's Principles of Internal Medicine, Twentieth Edition (Vol.1 & Vol.2) 20th Edition
3. Davidson's Principles and Practice of Medicine: With Student Consult Online Access (Principles & Practice of Medicine (Davidson's)) 21st Edition.

Questions for self-control:

- 1) Pervasiveness, etiological and trigger factors for the development of RA.
- 2) Pathomorphological changes in organs in RA, the main pathogenesis.
- 3) Diagnostic criteria of the American College of Rheumatology ACR and the European League Against Rheumatism ACR/EULAR.
- 4) Clinical classification of RA (ARU) and detailed clinical picture of RA.
- 5) Features of subglobular syndrome and manifestations.
- 6) Particular forms of RA: Still and Felt syndrome, their diagnostic criteria.
- 7) Clinical, laboratory and instrumental diagnostics of RA.
- 8) X-ray stages of RA.

- 9) The main provisions for the management of RA are consistent with the recommendations of the European Anti-Rheumatic League and the American College of Rheumatology.

Approximate tasks for the study of theoretical material:

Make a dictionary of basic concepts on the topic:

Term	Definition
Rheumatoid arthritis	
Monoarthritis	
Polyarthritis	
Oligoarthritis	
Morning stiffness	
Erosions and patterns of articular surfaces	
Felty syndrome	
Juvenile rheumatoid arthritis	
Steele's syndrome	
Rheumatoid factor (RF)	

II. Practical work (tasks) that will be performed in class:

Clinical task 1:

A 45-year-old patient complains of pain and stiffness in the joints, morning stiffness. Ill for 2 years. I took Brufen without any visible effect. Treatment with delagil was interrupted due to dizziness and blurred vision. Objectively: slight swelling, pain and limitation of movement in the joints of the hands, wrists and knees. In other organs there are no features. X-ray of the joints: reduction of inter-articular spaces, fusion of single lesions, osteoporosis of the articular ends of the bones.

ESR – 45, Waaler-Rose reaction 1/64, latex test 1/160.

Formulate a diagnosis.

Considering the ineffectiveness of previous treatment, the duration of the disease without remission, and the activity of the process, there are indications for basic therapy - gold preparations.

What diseases should be excluded before prescribing them?

What is the treatment method?

What are the methods for monitoring treatment tolerance?

When can a positive effect be expected?

Clinical task 2:

A 29-year-old patient complains of constant pain in the joints of the hand and legs at rest and during breathing, and a significant limitation in the range of movements in the limbs, especially before noon. Ill for 11 years. Since then, pain in the joints has been constantly increasing, and movement in them has been limited. She was treated in hospital several times. Deterioration a week before admission. The condition is satisfactory. There are no features from the internal organs. Severe deformation and defiguration of the joints, ankylosis of the elbow joint. The range of motion in the joints is sharply reduced, and stiffness persists throughout the day. Hemoglobin 90 g/l, ESR 41 mm/h, Vaaler-Rose reaction 1/32.

Establish the form, stage, phase of the disease.

What to expect on a joint x-ray?

What does the Waaler-Rose reaction mean?

What treatment is indicated?

Clinical task 3:

A 42-year-old patient, a housewife, consulted a local general practitioner with the following complaints: for several years she periodically noted general weakness and an unmotivated rise in temperature to subfebrile levels. A month ago, after an acute respiratory infection, moderate pain and swelling of the II and III metacarpophalangeal joints appeared, II, III, IV proximal interphalangeal joints of both hands, wrist joints; morning stiffness for 3 hours. Joint syndrome was accompanied by an increase in body temperature to 37.3°C. Does homework with difficulty. Objectively: the skin is of normal color and clean. Breathing is vesicular, no wheezing. The left border of relative cardiac dullness along the midclavicular line. Heart sounds are rhythmic. Blood pressure - 130/80 mm Hg. Art. Deformation noted of the above joints due to exudative-proliferative phenomena, diffuse soreness, active and passive movements are limited, painful. Complete blood count: leukocytes - $9.0 \times 10^9 / l$, ESR - 35 mm/hour.

Biochemical blood test: rheumatoid factor (RF) – 1:80. Antibodies to cyclic citrullinated peptide (ACCP) – 375.8 U/ml. X-ray of the joints of the hands: periarticular osteoporosis, narrowing was detected joint space, isolated bone abnormalities.

Questions:

1. Assume the most likely diagnosis.
2. Justify your diagnosis.
3. Draw up and justify a plan for additional examination of the patient.
4. What will be the treatment tactics for this disease?
5. What basic drug is advisable to prescribe in this case and why?

III. Test tasks for self-control:

1. Patient S., 34 years old, complains of pronounced pain in the small joints of the hands, morning stiffness of movements for 3 hours. He has been sick for 4 years. Objectively symmetrical impression of the joints of the hands, their deformation, subluxations, atrophy of the interosseous muscles. Blood: erythrocytes – $3.2 \times 10^{12} / l$, leukocytes – $9.7 \times 10^9 / l$, ESR – 45 mm/h, C-reactive protein – 36 U/ml, rheumatoid factor – 128 U/ml. Which is previous diagnosis?

- A. Rheumatoid arthritis
- B. Systemic lupus erythematosus
- C. Psoriatic arthritis
- D. Gout
- E. Lyme borreliosis

2. A 44-year-old patient complains of pain in the knee, wrist, and small joints of the hands. He has been sick for 3 years. About: thickening and soreness of the interphalangeal joints, when bending, crunches and soreness in the knee joints. In the blood: leukocytes - $8.2 \times 10^9 / l$, erythrocyte sedimentation rate - 44 mm/h. An x-ray of the hands shows narrowing of the joint space, wrinkles, osteoporosis. What is the most likely diagnosis?

- A. Reactive arthritis
- B. Gouty arthropathy
- C. Deforming osteoarthritis
- D. Rheumatoid arthritis
- E. Rheumatic polyarthritis

IV. Individual tasks for applicants on the topic of the lesson:

3. Patient S., 48 years old, complains of pain in the small joints of the hands, especially intense in the second half of the night and in the morning, which decrease during the day and especially in the evening. Stiffness in the morning that lasts for 2 hours bothers. Objectively: symmetrical impression

of the joints of the hands, their deformation, subluxations, atrophy of the interosseous muscles and crunch during active and passive movements. He has been sick for 5 years. What is the previous diagnosis?

- A. Osteoarthritis.
- B. Reactive arthritis
- C. Gout
- D. Rheumatoid arthritis
- E. Psoriatic arthritis

4. A 70-year-old patient complains of pain in the shoulder joints, buttocks, thighs, morning stiffness for more than 1 hour, weight loss. She became acutely ill, the symptoms increased over the course of 2 weeks. During the examination, a sharp soreness of the muscles during palpation in the specified areas is revealed, the ESR is 60 mm/h.

Treatment should begin with:

- A. Cytostatics
- B. Glucocorticosteroids
- C. Nonsteroidal anti-inflammatory drugs
- D. Preparations of the 4-aminoquinoline series
- E. Myospasmolytics

5. Patient Z. is 36 years old and has been suffering from rheumatoid arthritis for 8 years. Two months ago, swelling of the left knee joint appeared, resistant to treatment. Objectively: synovitis of the left knee joint. A puncture of this joint was performed and 50 ml of exudate was obtained. What cells will be detected during the study of articular punctate?

- A. Rocytes
- B. LE - cells
- C. Cells of Berezovsky
- D. Erythrocytes
- E. Eosinophils

6. A 15-year-old boy has been suffering from periodic exacerbations of arthritis with damage to the knee and ankle-foot joints for the past 4 years, which manifested by fever, bilateral conjunctivitis, carditis, development of skin erythema. Rheumatoid factor is negative. Name the likely diagnosis?

- A. Marfan syndrome
- B. Juvenile chronic arthritis
- C. Reactive arthritis
- D. Rheumatic arthritis
- E. Dysplastic arthropathy

7. A 35-year-old patient complains of pain, stiffness of joints, hands, and jaw joints for more than 30 minutes. He has been sick for 2 years. Objectively: edema proximal interphalangeal joints of the hands, limited movement in the joints of the hands. What examination of the patient is necessary?

- A. X-ray of hands
- B. General blood test
- C. Waale-Rouse reaction
- D. Immunogram
- E. Proteinogram

8. The patient has been suffering from rheumatoid arthritis for more than 1 year. Has a rapidly progressive course of the disease. X-ray confirmed the presence of marginal defects. Treatment with which "basic" drug is the most appropriate?

- A. Hydroxychloroquine
- B. Methotrexate
- C. Sulfasalazine
- D. Leflunomide
- E. Aspirin

9. A 38-year-old patient has morning stiffness in the whole body, especially in the joints of the upper and lower limbs, which disappear after active movements due to 30-60 min., arthritis of the metacarpal-phalangeal and proximal phalangeal joints, subfebrile temperature. SZE - 45 mm/h. X-ray: osteoporosis and wear of the articular surface of the small joints of the hand and foot are noted.

What is the most likely diagnosis?

- A. Reactive polyarthritis
- B. Psoriatic arthropathy
- C. Deforming osteoarthritis
- D. Systemic lupus erythematosus
- E. Rheumatoid arthritis

10. A 19-year-old girl complains of pain and stiffness in the carpal, proximal interphalangeal, metacarpal-phalangeal, ankle-metatarsal-phalangeal joints, low-grade fever, weight loss. What is the most likely diagnosis?

- A. Psoriatic arthritis
- B. Reactive arthritis
- C. Rheumatoid arthritis
- D. Ankylosing spondylitis (Bekhterev's disease)
- E. Systemic lupus erythematosus

IV. Individual tasks for applicants on the topic of the lesson:

Variant 1.

Task 1.

Fill in the classification table:

Categories	Classification signs
Clinical and anatomical characteristics	
Clinical and immunological characteristics	
The course of the disease	
Degree of activity	
Stage according to X-ray data	

Task 2.

Pathomorphological changes on the part of the joints are staged.

1	exudative	
2	exudative-proliferative	
3	proliferative	

Task 3.

List the main directions of treatment of RA:

- _____
- _____
- _____
- _____
- _____

Task 4.

Fill in the table:

Groups of drugs for therapy

Variant 2.

Task 1.

Make description of different manifestations.

Joint syndrome	
Damage to the spine	
Extra-articular manifestations	
Subcutaneous nodes	
Vasculitis	
Lungs and pleura	
Heart	
Eye damage	
Skin	
Kidneys	

Task 2.

Classification of mobility disorders of RA:

- 1.-
- 2.-
- 3.-
- 4.-

Task 3.

RA classification criteria according to ACR and EULAR 2010:

damagetothejoints:

Criteria	Points

serology (resultof ≥ 1 testisrequired):

Indicators of the acute phase (the result of ≥ 1 test is required):

Duration of symptoms:

Task 4.

Fill in the table of treatment:

Drug	Method of use, dose	Indication

Recommended reading list:

Basic:

1. Rheumatology [Text]: teaching. manual / V. G. Psaryova, N. M. Kyrychenko, O. S. Pogorelova [and others]; in general ed. L. N. Prystupy, G. A. Fadeeva. - Sumy: Sumy State University, 2019. - 235 p. - 175-80
2. Internal medicine: Rheumatology: study guide (University of postgraduate education) /V.E.Kondratyuk, M.B.Jus. - K.: Medicine. 2017. - 272 p.
3. Diagnosis and treatment of rheumatic diseases: study guide / A.S. Svintsitskyi. - K.: Medknyga Publishing House, 2017.-372 p.
4. Perederii V.G. Basics of internal medicine: a textbook. Volume 2. Diseases of the circulatory system. Rheumatic diseases. Kidney disease. General questions of internal medicine / Perederii V.G., Tkach S.M.– Vinnytsia: New book. 2018. – 640 p.
5. Internal diseases: national. textbook. in 2 parts. Part 1. Chapters 1-8 / L.V. Glushko, S.F. Fedorov, I.M. Skrypnyk, M.M. Ostrovsky // edited by L.V. Glushka-K.: Medicine. 2019. - 680 p.

Additional:

1. Internal medicine: Part 1: textbook for English-speaking students of higher medical schools / ed. by M. A. Stanislavchuk, V. K. Sierkova. - Vinnytsya: Nova Knyha, 2019. - P. 1: Cardiology. Rheumatology. Hematology. - 407 p.
2. Family Medicine in 3 books. Book 2. Symptoms and syndromes in the clinical course of Internal Diseases. / edited by O.M. Hyrina, professor L.M. Pasiyeshvili. Medicine, 2018. - 376

3. Harrison's Principles of Internal Medicine Self-Assessment and Board Review, 19th Edition by Stephen L. Hauser, Charles Wiener, Anthony S. Fauci, Cynthia Brown and Dennis L. Kasper. 2017. 672

Topic 10. Ankylosingspondyloarthritis. Peculiarities of etiology and pathogenesis. Clinical picture of lesions of the spine and peripheral joints. Differential diagnosis and main methods of treatment.

The main goals: to indicate the relevance of the topic, know the peculiarities of etiology and pathogenesis of ankylosing spondyloarthritis, know the risk factors for the development of ankylosing spondyloarthritis, know the diagnostic criteria, know clinical classification, clinical manifestations of various forms, be able to provide differential diagnosis, learn main methods of treatment.

Key words: ankylosing spondyloarthritis, joins syndrome, autoimmune process.

Plan

I. Theoretical questions for the lesson:

1. https://www.dec.gov.ua/wp-content/uploads/2019/11/akn_akss.pdf
2. Harrison's Principles of Internal Medicine, Twentieth Edition (Vol.1 & Vol.2) 20th Edition
3. Davidson's Principles and Practice of Medicine: With Student Consult Online Access (Principles & Practice of Medicine (Davidson's)) 21st Edition.

Questions for self-control:

- 1) Etiopathogenesis of ankylosing spondylitis.
- 2) Diagnostic criteria.
- 3) Clinical manifestations of various forms of AS.
- 4) Extraskeletal manifestations.
- 5) Functional tests to determine mobility in different parts of the spine in AS.
- 6) Clinical and laboratory instrumental diagnostics.
- 7) X-ray stages of AS.
- 8) Scales for determining activity and functional-structural state in AS.
- 9) X-ray positive and X-ray negative AS:
- 10) Eye damage in seronegative spondyloarthritis. Features of clinical manifestations, diagnosis and treatment.
- 11) Damage to the heart, lungs and kidneys in ankylosing spondylitis, clinical manifestations, approaches to diagnosis and treatment.
- 12) Clinical pharmacology of drugs for the treatment of patients with AS (indications, contraindications, side effects of NIIZP, GC, biological drugs).
- 13) Monitoring of side effects of medicines.
- 14) Modern approaches to the treatment of AS according to modern international recommendations.

Approximate tasks for the study of theoretical material:

Make a dictionary of basic concepts on the topic:

Term	Definition
Ankylosing spondylitis	
Rheumatoid factor (RF)	
Antinuclear antibodies	
HLA-B27 allele	

Sacroiliitis	
ASAS criteria	
Uveitis	
Dactylitis	
Enthesitis of the heel	
Bamboo spine	

II. Practical work (tasks) that will be performed in class:

Clinical task 1:

A 30-year-old man complains of pain and stiffness in the thoracic and lumbar regions of the spine after a long stay in a sitting position, night pains. Objectively: slight stooping, stiff gait, iridocyclitis, positive symptom of Ott and Schober. X-ray of pelvic bones: sacroiliac joints are uneven, unclear with areas of osteosclerosis, their slits unevenly narrowed. What is your previous diagnosis?

- A. Ankylosing spondyloarthritis
- B. DOA with spinal cord injury.
- C. Reiter's disease, sacroiliitis.
- D. Psoriatic arthritis, sacroiliitis.
- E. Tuberculosis of the spine

Clinical task 2:

A 38-year-old man has been worried about a gradually growing problem for 10 years pain in the joints of the hands and in the lower part of the spine with a disturbance in its movements. He was treated for osteochondrosis, then rheumatoid arthritis with a short-term effect. He was seen by an ophthalmologist for iridocyclitis. An. blood: ESR - 27 mm/h. X-ray: bilateral periarticular sclerosis and narrowing of the joint space in the sacroiliac joint. What is the most likely pathology in this case?

- A. Ankylosing spondyloarthritis.
- D. Reactive arthritis.
- B. Rheumatoid arthritis.
- E. Osteochondrosis.
- C. Deforming osteoarthritis

Clinical task 3:

Patient 53 years old, complains of weakness, pain all over spine (mainly at night), in both hip and knee joints, morning stiffness for up to 40 minutes, which goes away after exercise. Sick with 35 years old, pain in the lower back and sacrum appeared (especially at night), later joined morning stiffness, which goes away after a short exercise, increased temperature up to 37-37.5°C. Objectively: the condition is satisfactory, the position is active. BP=150/100 mmHg. Heart rate-74 beats/min. ChD-18 per min. t-37.3°C. There is pronounced thoracic kyphosis and cervical hyperlordosis, smoothness of lumbar lordosis, pain on palpation along the spine, paravertebral lines and hip joints. Active and passive movements cause pain.

X-ray of the spine and iliosacral joints: Deforming spondylosis, bilateral sacroiliitis, St 3.

Questions:

1. Your diagnosis. Carry out differential diagnosis.
2. What is the nature of the patient's pain syndrome?
3. What complications are possible in patients with this pathology?

4. Prescribe treatment to the patient

III. Test tasks for self-control:

1. A 31-year-old man was periodically treated for several years of radiculitis of the lumbosacral spine. Appeared in the last 2 years pain in the joints of the upper and lower limbs, which increases in the second half of the night. Objectively: swelling of the knee joints, pain on palpation of the lumbosacral spine, limitation of mobility of the chest during deep breathing. Due to suspicion of illness Bekhterev was prescribed an X-ray of the spine and pelvis. Which changes on X-rays are most likely?

- A. Bilateral sacroiliitis.
- B. Osteoporosis, wear of the articular surface.
- C. Narrowing of the joint space, osteophytosis.
- D. Numerous cyst-like enlightenments.
- E. Spread of joint gaps, subchondral sclerosis

2. Which of the listed manifestations are not characteristic of ankylosing spondylitis?

- A. apical pulmonary fibrosis
- B. kyphosis
- C. aortic insufficiency
- D. peripheral arthritis
- E. chronic conjunctivitis

3. A 32-year-old man has been troubled by pain in the sacrum and hip joints, pain and stiffness during movements in the lumbar region of the spine. ESR – 56 mm/h. X-ray revealed signs of bilateral sacroiliitis. The patient is a carrier of HLA B27 antigen. What is the most likely diagnosis?

- A. Spondylosis.
- B. Reiter's disease.
- C. Coxarthrosis.
- D. Ankylosing spondyloarthritis.
- E. Rheumatoid arthritis

4. A 47-year-old man was treated by a neurologist for 10 years of osteochondrosis of the spine with radicular syndrome. Last 2 years of treatment passed without clinical effect. The doctor noticed an increase in the laboratory process activity, disappearance of physiological lordosis. She was suspicious of Bekhterev's disease. What research will help confirm the diagnosis?

- A. X-ray of the iliosacral joints.
- B. Determination of HLA-B27 antigen.
- C. CIC level in the blood.
- D. Bone marrow punctate
- E. Presence of rheumatoid factor.

5. Mark the most characteristic signs of seronegative spondyloarthritis:

- A. lack of rheumatoid factor
- B. develops more often in women than in men
- C. subcutaneous nodules
- D. presence of rheumatoid factor

6. What clinical manifestations occur in seronegative spondyloarthropathies?

- A. damage to the eyes
- B. ulceration of the skin and mucous membranes
- C. damage to nails
- D. damage to the distal interphalangeal joints

7. A 40-year-old man has been ill for about 8 years. He complains of pain in the lower back in the spine during physical exertion, in the cervical and thoracic region, especially when coughing, pain in right hip and knee joints. Objectively: the body is fixed in a forward leaning position with the head down, gluteal muscle atrophy. X-ray of the spine: osteoporosis of the vertebrae, ossification of longitudinal ligaments. What is the most likely diagnosis?

- A. Spondyloarthropathy against the background of Reiter's disease.
- B. Tuberculous spondylitis.
- C. Psoriatic spondyloarthropathy.
- D. Ankylosing spondyloarthritis.
- E. Widespread osteochondrosis of the spine

8. A 47-year-old man was treated by a neurologist for 10 years osteochondrosis of the spine with radicular syndrome. Last 2 years of treatment passed without clinical effect. The doctor noticed an increase in the laboratory process activity, disappearance of physiological lordosis. She was suspicious of Bekhterev's disease. What research will help confirm the diagnosis?

- A. Radiography.
- D. Antibodies to DNA.
- B. The level of immunoglobulins.
- E. Presence of rheumatoid factor.

9. A 40-year-old man complains of aching pain in the back and lumbar muscles area and legs, shoulder and hip joints, impaired vision, rapid heartbeat. Objectively: phenomena of uveitis and cataract development, arrhythmia and prolongation of the PQ interval on the ECG. Radiographically – single syndesmophytes between the vertebral bodies and blurring of the contours of the sacro-joint joints. Antibodies to HLA-B27 antigens were also detected, moderate anemia, ESR - 18 mm/h. What disease causes such a picture?

- A. Systemic lupus erythematosus.
- B. Reiter's syndrome.
- D. Ankylosing spondylitis.
- E. Myasthenia.
- C. Rheumatoid arthritis.

IV. Individual tasks for applicants on the topic of the lesson:

Variant 1.

Task 1.

Fill in the classification table:

Categories	Classification signs
Axial ankylosing spondylitis	
Peripheral ankylosing spondylitis	
Nonradiographic ankylosing spondylitis	

Task 2.

Fill in the table of mandatory laboratory tests for a patient:

No	Method	Aims
1	erythrocyte sedimentation rate	
2	C-reactive protein	

3	human leukocyte antigen B27 [HLA-B27]	
4	complete blood count	
5	rheumatoid factor (RF)	
6	antinuclear antibodies	

Task 3.

List the main directions of treatment of AS:

- _____
- _____
- _____
- _____
- _____

Task 4.

Fill in the table:

Groups of drugs for therapy

Variant 2.

Task 1.

Assessment of SpondyloArthritis international Society (ASAS) criteria include the following:

Task 2.

According to the radiological dynamics of changes in the bone and joint apparatus, it is customary to distinguish three stages:

- 1.-
- 2.-
- 3.-

Task 3.

Symptoms for determining the mobility of different parts of the spine:

Symptom "chin-sternum" -

Forestier's symptom -

Symptom of Kuleshevsky-Patrick-

Thomayer's symptom-

Task 4.

Fill in the table of treatment:

Drug	Method of use, dose	Indication

Recommended reading list:

Basic:

1. Rheumatology [Text]: teaching. manual / V. G. Psaryova, N. M. Kyrychenko, O. S. Pogorelova [and others]; in general ed. L. N. Prystupy, G. A. Fadeeva. - Sumy: Sumy State University, 2019. - 235 p. - 175-80
2. Internal medicine: Rheumatology: study guide (University of postgraduate education) /V.E.Kondratyuk, M.B.Jus. - K.: Medicine. 2017. - 272 p.
3. Diagnosis and treatment of rheumatic diseases: study guide / A.S. Svintsitskyi. - K.: Medknyga Publishing House, 2017.–372 p.
4. Perederii V.G. Basics of internal medicine: a textbook. Volume 2. Diseases of the circulatory system. Rheumatic diseases. Kidney disease. General questions of internal medicine / Perederii V.G., Tkach S.M.– Vinnytsia: New book. 2018. – 640 p.
5. Internal diseases: national. textbook. in 2 parts. Part 1. Chapters 1-8 / L.V. Glushko, S.F. Fedorov, I.M. Skrypnyk, M.M. Ostrovsky // edited by L.V. Glushka-K.: Medicine. 2019. - 680 p.

Additional:

1. Internal medicine: Part 1: textbook for English-speaking students of higher medical schools / ed. by M. A. Stanislavchuk, V. K. Sierkova. - Vinnytsya: Nova Knyha, 2019. - P. 1: Cardiology. Rheumatology. Hematology. - 407 p.
2. Family Medicine in 3 books. Book 2. Symptoms and syndromes in the clinical course of Internal Diseases. / edited by O.M. Hyrina, professor L.M. Pasiyeshvili. Medicine, 2018. - 376
3. Harrison's Principles of Internal Medicine Self-Assessment and Board Review, 19th Edition by Stephen L. Hauser, Charles Wiener, Anthony S. Fauci, Cynthia Brown and Dennis L. Kasper. 2017. 672

Topic 11. Systemic lupus erythematosus. Modern recommendations for the management of patients. New aspects of effective therapy

The main goals: to indicate the relevance of the topic, know the peculiarities of etiology and pathogenesis of systemic lupus erythematosus, know the risk factors for the development, know the diagnostic criteria, know clinical classification, clinical manifestations of various forms, be able to provide differential diagnosis, learn main methods of treatment.

Key words: systemic lupus erythematosus, joints syndrome, autoimmune process.

Plan

I. Theoretical questions for the lesson:

1. <https://guidelines.moz.gov.ua/documents/3299>
2. Harrison's Principles of Internal Medicine, Twentieth Edition (Vol.1 & Vol.2) 20th Edition
3. Davidson's Principles and Practice of Medicine: With Student Consult Online Access (Principles & Practice of Medicine (Davidson's)) 21st Edition.

Questions for self-control:

- 1) Epidemiology of SLE.
- 2) Causes and mechanisms of development of SLE.
- 3) Features of damage to the skin, joints, muscles, lungs, heart and blood vessels, gastrointestinal tract, central nervous system, kidneys.
- 4) Morphological classes and severity criteria of lupus nephritis.
- 5) Clinical classification.
- 6) Diagnostic criteria of SLE.
- 7) Laboratory diagnosis of SLE using general clinical, biochemical and specific immunological research methods.
- 8) Approaches to non-drug and drug treatment of SLE.
- 9) SLE therapy.
- 10) Peculiarities of treatment of lupus nephritis.
- 11) Prognosis in patients with HF.

Approximate tasks for the study of theoretical material:

Make a dictionary of basic concepts on the topic:

Term	Definition
Systemic Lupus Erythematosus	
<u>systemic sclerosis</u>	
malar butterfly erythema	
<u>panniculitis</u>	
<u>Raynaud syndrome</u>	
<u>Lupus Nephritis</u>	
antiphospholipid antibodies	
antinuclear antibodies	
anti-double-stranded (ds) DNA (anti-dsDNA)	
anticytoplasmic antibodies	

II. Practical work (tasks) that will be performed in class:

Clinical task 1:

Patient D., 18 years old, student, complains of pain in the knee, elbow and interphalangeal joints of the hands, a feeling of stiffness in them, pain under the shoulder blades when breathing deeply, a feeling of lack of air, general weakness, an increase in body temperature to low-grade levels. She became acutely ill three months ago, when sharp pain appeared in the right shoulder and wrist joints, a feeling of stiffness in them, weakness in the arms and legs, pain in the lower back, and an increase in body temperature to 38°C. Soon, erythematous rashes appeared on the bridge of the nose

and cheeks. She was treated at her place of residence, where the condition was regarded as active rheumatism, rheumatic carditis, polyarthritides, and kidney damage. Blood tests revealed anemia (hemoglobin - 90 g/l), an increase in ESR to 35 mm/h. Treatment was carried out with penicillin, indomethacin, and antihistamines, against which the body temperature dropped to subfebrile values. However, arthralgia persisted, spreading to the knee joints and interphalangeal joints of the hands, a feeling of lack of air began to arise, then pain appeared under the shoulder blades when breathing deeply.

Upon admission to the clinic, the body temperature was 38.3°C. The skin is pale, capillaritis of the palms, lymphadenopathy, increased volume and hyperthermia of the left knee joint. There is bright erythema on the skin of the cheeks and dorsum of the nose. In the lungs, breathing is vesicular, wheezing is not heard. BH - 17 per minute. On percussion, the boundaries of the heart are not expanded. Heart sounds are muffled, a gallop rhythm is heard, and a weak systolic murmur is heard at the apex. Pulse - 100 per minute, rhythmic. Blood pressure - 120/70 mm Hg. Art. The liver protrudes 2.5 cm from under the edge of the right costal arch; on palpation it is soft-elastic and painless. The lower pole of the spleen is palpated. The symptom of tapping in the lumbar region is negative on both sides.

Provide written answers to the following questions.

- Conduct a diagnostic search.
- After the 2nd stage of the diagnostic search, formulate a preliminary diagnosis.
- Make an examination plan. Indicate what additional studies are needed to make a diagnosis.
- Formulate a clinical diagnosis. Specify diagnostic criteria.
- Prescribe treatment and justify it.

Clinical task 2:

Patient S, 22 years old, secretary, came to the clinic with complaints of severe general weakness, increased body temperature to 37.5°C, pain in the interphalangeal joints of the hands and difficulty when trying to clench the left hand into a fist, pain in the chest on the right with deep breathing, the appearance of a rash on the face, the outer surface of the forearms, on the elbows and in the décolleté area. These symptoms arose about a week ago after a weekend vacation on the lake, where the patient was sunbathing.

Upon examination, bright erythematous rashes and slightly increased hair loss are detected on the skin of the bridge of the nose and cheekbones, in the décolleté area and on the extensor surfaces of the forearms. Body temperature 37.3°C. On palpation of the left hand, compacted painful tendons of the flexor fingers are determined; an attempt to bend the hand into a fist causes pain. When auscultating the lungs on the left below the angle of the scapula, a pleural friction noise is heard, in other parts there is vesicular breathing. BH - 17 per minute. On percussion, the boundaries of the heart are not expanded, the tones are clear, there are no murmurs, the rhythm is correct. Heart rate - 78 per minute. Blood pressure - 135/80 mm Hg. Art. The abdomen is soft and painless on palpation. The liver and spleen are not enlarged. The symptom of tapping in the lumbar region is negative on both sides. Focal neurological symptoms are not determined.

Provide written answers to the following questions.

- Conduct a diagnostic search.
- After the 2nd stage of the diagnostic search, formulate a preliminary diagnosis.
- Make an examination plan. Indicate what additional studies are needed to make a diagnosis.
- Formulate a clinical diagnosis. Specify diagnostic criteria.
- Prescribe treatment and justify it.

Clinical task 3:

Girl 13 years old. Complaints of increased temperature, decreased appetite. Sick for 3 weeks. On examination: capillaritis, "butterfly" on the face such as centrifugal erythema. Loss of body weight. Low-grade fever. Arthritis of the wrist joints. Heart sounds are muffled. Tachycardia. CBC: erythrocytes - $2.8 \cdot 10^{12}/l$, Hb-96 g/l, leukocytes - $3.2 \cdot 10^{12}/l$, platelets - 120 thousand. ESR-56

mm/hour. High titer antinuclear factor.

Prescribe a drug for this disease from the following:

- a) suprastin
- b) prednisolone
- c) voltaren
- d) ampicillin
- d) sumamed

III. Test tasks for self-control:

1. Girl 10 years old. After summer swimming at the lake, weakness, arthralgia, weight loss of 4 kg, and hair loss appeared. Erythema on the cheeks and bridge of the nose. Temperature rises to 38.0°C, swelling of the knee and ankle joints. In the UAC: ESR-42 mm/hour; in biochemical analysis, dysproteinemia, increased alpha 2 and gamma fractions of globulins, CRP +++.

The most likely of the following diagnoses is:

- a) rheumatic fever
- b) SLE
- c) allergic dermatitis
- d) dermatopolymyositis
- d) JRA

2. Girl 13 years old. Complaints of fever, joint pain. Objectively: hair loss, arthritis of the ankle joints. Enanthema on the hard palate, cheilitis, symptoms of stomatitis. Heart sounds are muffled, tachycardia. In the UBC: leukocytes - 2.7×10^9 , platelets - 110,000, ESR - 48 mm per hour. There is a high titer of anti-Sm antibodies in the blood.

The most likely of the following diagnoses is:

- a) systemic lupus erythematosus
- b) JRA
- c) polyarteritis nodosa
- d) rheumatic fever
- e) dermatopolymyositis

3. A 38-year-old woman is in the clinic for systemic lupus erythematosus, III degree of activity, erythema, myocarditis, secondary nephritis. Despite the 4 weeks of prednisone therapy at a daily dose of 1 mg/kg of body weight, severe edematous syndrome persists, arterial hypertension, significant proteinuria. Determine your next strategy pathogenetic therapy:

- A. Appointment of another corticosteroid
- B. Appointment of heparin
- S. Appointment of azathioprine
- D. Appointment of cyclophosphane
- E. Purpose of plaquenil

4. A 20-year-old patient complains of pain in the small joints of the hands, a red rash on the face in the form of a butterfly, an increase in temperature to 39°C. Complaints appeared after insolation. In the blood LE - cells 15 and 1000 leukocytes. Your diagnosis?

- A. SCV.
- B. Scleroderma.
- C. Tuberculosis.
- D. Rheumatoid arthritis.
- E. Rheumatism

5. A 23-year-old patient with a diagnosis of SLE has been taking it for 5 years prednisone in a

maintenance dose of 5 mg/day. In case of exacerbation of the disease the dose was increased to 60 mg/day. A week later, sharp weakness appeared, nausea, epigastric pain, black stool. This deterioration is associated with:

- A. Increasing the dose of hormone therapy.
- B. The development of gastric ulcer as an independent disease.
- C. Exacerbation of the main disease.
- D. Development of stomach cancer.
- E. Development of colon ulcer

6. The patient is 20 years old, with significantly reduced nutrition. Considers herself sick with 9 years old, when she first noticed the appearance on the skin of her face and hands pink-red spots with whitish-gray scales, hair loss and joint pain. Currently, he is in a hospital because of a stable condition arterial hypertension, repeated changes in urine (increased protein content, erythrocyturia, leukocyturia) and azotemia. Which connective tissue disease should you think about first?

- A. SLE
- B. Juvenile RA.
- C. Dermatomyositis.
- D. Scleroderma.
- E. Rheumatism

7. A 40-year-old woman complains of weakness, rapid fatigue, increase in body temperature up to 38°C, rash on the skin of the face, pain in carpal and elbow joints. He has been sick for 3 years. When examining: on erythematous rash in the form of a "butterfly" on the cheeks, radio-carpal and elbow joints are symmetrically affected, swollen; friction noise over the lungs pleura In the blood: anemia, leukopenia, lymphopenia. In the urine: proteinuria and cylindruria The formation of which antibodies is the most reliable in the mechanism of disease development?

- A. Formation of antibodies to native DNA.
- B. Formation of antibodies to myocytes.
- C. Formation of antibodies to endothelial cells.
- D. Formation of antibodies to myosin.
- E. Detection of rheumatoid factor.

8. Give approximate suppressive daily doses of prednisolone for treatment of systemic lupus erythematosus of the first degree of activity.

- A. 5-10 mg.
- B. 15-20 mg.
- C. 30-40 mg.
- D. 40-50 mg.

9. Specify the approximate suppressive daily doses of prednisolone for treatment of systemic lupus erythematosus II degree of activity.

- A. 15-20 mg.
- B. 30-40 mg.
- C. 60-80 mg.
- D. 90-100 mg.

10. Which of the following variants of systemic lupus erythematosus is contraindicated cytostatic immunosuppressors?

- A. With aseptic necrosis of the femoral head.
- B. During the development of encephalomyeloneuritis.

- C. With arterial hypertension.
- D. With pronounced anemia.

IV. Individual tasks for applicants on the topic of the lesson:
Variant 1.

Task 1.

Fill in the classification table:

Categories	Classification signs

Task 2.

Fill in the table:

Organ/system	Signs of damages of organs and systems
Joint manifestations	
Skin and mucous membrane manifestations	
Cardiopulmonary manifestations	
Lymphoid tissue	
Neurologic manifestations	
Renal manifestations	
Gastrointestinal manifestations	
Hematologic manifestations	
Obstetric manifestations	

Task 3.

Diagnostic criteria of systemic lupus erythematosus according to A. Nasonova

Major diagnostic criteria:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Small diagnostic criteria:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.

Task 4.

Fill in the table:

Groups of drugs for treatment

Variant 2.

Task 1. Diagnostic criteria for systemic lupus erythematosus, ACR, updated ACR:

Criterion	Value
Rash on the cheekbones and cheeks	
Discoid rashes	
Photosensitization	
Ulcers in the oral cavity	
Arthritis	
Serositis	
Renal disorders	
Neurological disorders	
Hematological disorders	
Immunological disorders	
Anti-nuclear antibodies	

Task 2.

Fill in the table

Classification of lupus nephritis, ISN, 2004:

1	
2	
3	
4	
5	
6	

Task 3.

Differential diagnosis of SLE. Name 15 diseases for comparison.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.

Task 4.

Fill in the table of treatment:

Drug	Method of use, dose	Indication

Recommended reading list:

Basic:

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Additional:

1. Internal medicine: Part 1: textbook for English-speaking students of higher medical schools / ed. by

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