

Federal State Budgetary Educational Institution of Higher Education "North Ossetian State Medical Academy" of the Ministry of Health of the Russian Federation

Department of Radiation Diagnostics with Radiation Therapy and Oncology

APPROVED
minutes of the meeting
Central coordination
educational and methodological council
"23" May 2023 No. 5

ASSESSMENT MATERIALS

in Oncology, radiation therapy
(name of discipline (module)/educational/industrial practice, research work - select what is required)

main professional educational program of higher education - specialty program in specialty
05/31/01 General Medicine,
approved on May 24, 2023

for 6th year students (students/residents/postgraduates/listeners)
– select what is required) (course/year of study)
specialty 05/31/01 General Medicine
(code/name)

Reviewed and approved at a department meeting
From 21.05. 2023 (protocol No. 7)

Head of the Department Doctor of Medicine
Khasigov A.V.



STRUCTURE OF ASSESSMENT MATERIALS

1. Title page
2. Structure of assessment materials
3. Reviews of evaluation materials
4. Passport of evaluation materials
5. Set of assessment materials:
 - questions for the module
 - questions for testing
 - questions for the exam
 - bank of situational tasks/practical tasks/business games
 - standards of test tasks (with title page and table of contents)
 - exam papers/test tickets

**FEDERAL STATE BUDGETARY EDUCATIONAL INSTITUTION OF HIGHER
EDUCATION " NORTH OSSETIAN STATE MEDICAL ACADEMY" OF THE MINISTRY
OF HEALTH OF THE RUSSIAN FEDERATION**

**REVIEW
for assessment materials**

in the discipline _ Oncology, radiation therapy

for _ 6th year students

specialty 05/31/01 General Medicine

Evaluation materials were compiled at the Department of Radiation Diagnostics with Radiation Therapy and Oncology

based on the work program of the discipline Oncology, radiation therapy approved minutes of the meeting Central Coordination **Educational** and Methodological Council "23" May 2023 No. 5

and meet the requirements of the Federal State Educational Standard for Higher Education in the specialty 31.05.01 General Medicine, approved by the Ministry of Education and Science of the Russian Federation on 02/09/2016. No. 95

Evaluation materials include:

- questions for the module,
- questions for testing,
- questions for the exam,
- bank of situational tasks/practical tasks/business games,
- standards of test tasks (with title page and table of contents),
- exam tickets/test tickets

The bank of situational tasks/practical tasks/business games includes the tasks themselves and answer templates. All tasks correspond to the work program of the discipline "Oncology, radiation therapy", the competencies formed during its study, and cover all its sections.

The bank contains answers to all situational tasks/practical tasks/business games .

Test task standards include the following elements: test tasks, answer templates.

All tasks correspond to the work program of the discipline "Oncology, radiation therapy", the competencies formed during its study, and cover all its sections. The difficulty of the tasks varies. The number of tasks for each section of the discipline is sufficient for testing knowledge and eliminates repeated repetition of the same question in different versions. The standards contain answers to all test tasks.

The number of exam tickets is sufficient to conduct the exam and eliminates the repeated use of the same ticket during the exam within one day. Examination tickets/test tickets are made on uniform forms according to a standard form, on paper of the same color and quality. The examination ticket/test ticket includes _____ questions. The wording of the questions coincides with the wording of the list of questions submitted for the exam/test. The content of the questions on one ticket relates to various sections of the work program of the discipline, allowing you to more fully cover the material of the discipline.

In addition to theoretical questions, a bank of situational tasks (tests, recipes, radiographs, electrocardiograms, etc.) / practical tasks / business games is offered. Situational tasks/practical tasks/business games make it possible to objectively assess the level of student's mastery of theoretical material during ongoing monitoring of progress and intermediate certification. The complexity of questions in exam papers/test tickets is distributed evenly.

comments on the peer-reviewed assessment materials.

In general, assessment materials for the discipline Oncology, radiation therapy

contribute to a qualitative assessment of students' level of proficiency in universal/general professional/professional competencies.

Peer-reviewed assessment materials in the discipline Oncology, radiation therapy

can be recommended for use for ongoing monitoring of progress and intermediate certification at the Faculty of Medicine for students of the 6th year/year of study.

Reviewer:

Chairman of the TSUMK for natural sciences and mathematics with a subcommittee for the examination of assessment materials, Associate Professor of the Department of Chemistry and Physics

signature

Botsiev N.I.

M.P.

"23.05." 2023

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Reviewer:

Chief specialist - radiologist of the Ministry of Health of RSO-Alania, Head of the Department of Radiation Diagnostics, Federal State Budgetary Institution "SKMMC" of the Ministry of Health of the Russian Federation, Professor, Doctor of Medical Sciences.

signature

Georgiadi S.G.

M.P.

"23.05." 2023

Passport of assessment materials for the discipline
Oncology, radiation therapy

No.	Name of the supervised section	Code of the	Name of assessment
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	(topic) of the discipline/module	competence (stage) being formed	material
1	2	3	4
Type of control	Ongoing progress monitoring/interim assessment		
1	Organization of oncological care to the population.	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
2	Cancer and precancerous skin diseases. Cancer of the oral mucosa. Tumors of bones and soft tissues.	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
3	Precancerous diseases and cancer mammary gland.	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
4	Precancerous diseases and cancer lung	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
5	Esophageal cancer, stomach cancer.	OPK-1 OPK-4	test control, questions for the module,

	Malignant lymphomas . Multiple myeloma.	OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
6	Colon and rectal cancer. Tumors hepatopancreatoduodenal zone. Modular lesson. Pass.	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
7	Physical foundations of radiation therapy. Radiobiological principles of radiation therapy for malignant and non-tumor diseases	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
8	Radiation therapy methods. Technical support for radiotherapy	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
9	Radiotherapy planning. Pre- radiation period. Radiation period. The body's reactions to therapeutic radiation exposure. Post-radiation period. Radiation protection of organs and tissues during radiation therapy	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets

		PK-16 PK-17	
10	Basics of radiation therapy for malignant tumors of the maxillofacial region.	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
eleven	Basics of radiation therapy for malignant tumors of the thoracic and abdominal cavities	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets
12	Basics of radiation therapy for malignant tumors of the central nervous system, thyroid gland, Retroperitoneal space, skeletal system,	OPK-1 OPK-4 OPK-6 OPK-8 PC-1 PC-2 PK-5 PK-6 PK-8 PK-16 PK-17	test control, questions for the module, questions for the test, questions for the exam, bank of situational tasks/practical tasks/business games, test/exam tickets

*The name of the controlled section (topic) or topics (sections) of the discipline/module is taken from the work program of the discipline.

**Federal State Budgetary Educational Institution
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Department of “ Radiation diagnostics and radiation therapy with oncology”
Faculty - Medical Course-6
Discipline - Oncology, radiation therapy.

Questions for module No. 1

1. Tumors (their types) and tumor-like processes. Forms of growth and spread of tumors.
2. Subject of oncology. History of the development of oncology.
3. Biological properties of malignant tumors.
4. Stages of development of malignant tumors.
5. Structure of the oncological service in Russia.
6. The concept of precancer and background diseases.
7. Histological classification of human tumors.
8. Morphological classifications of tumors. The role and organization of morphological research.
9. Clinical groups of cancer patients.
10. Diagnostic methods in clinical oncology.
11. General principles of surgical treatment of malignant tumors.
12. General principles of radiation therapy for malignant tumors.
13. General principles of drug therapy for malignant tumors.
14. Combined treatment of malignant tumors.
15. Complex treatment of malignant tumors.
16. General principles of symptomatic treatment of malignant tumors.
17. Palliative treatment of malignant tumors.

Questions for module No. 2

1. Skin cancer statistics
2. Epidemiology of primary skin cancer.
3. Risk factors.
4. Clinical forms of skin cancer.
5. Diagnosis of skin cancer.
6. Differential diagnosis of skin cancer
7. Stages of the process according to domestic classification
8. Process stages in the TNM system.
9. Treatment of skin cancer, surgical treatment
10. Chemoradiation treatment of skin cancer
11. Prognosis of skin cancer.
12. Clinical observation for skin cancer
13. Morbidity and mortality from cancer of the lower lip and oral cavity in the world, Russia
14. Factors influencing the development of cancer of the lower lip and oral cavity.
15. Background and precancerous diseases of cancer of the lower lip and oral cavity.
16. Pathological anatomy of cancer of this localization.
17. Clinical forms of cancer of the lower lip and oral cavity and features of metastasis.
18. Classification according to the TNM system depending on location
19. Stages and methods of diagnosing cancer of the lower lip and oral cavity.
20. The importance of morphological methods.
21. Differential diagnosis with precancerous diseases.
22. Standards of treatment for cancer of the lower lip and oral cavity, including combined and complex.
23. Clinical observation of patients with cancer of the lower lip and oral cavity
24. Rehabilitation of patients with cancer of the lower lip and oral cavity

Questions for module No. 3

1. Morbidity and mortality from lung cancer in the world, Russia
2. Factors influencing the development of lung cancer.
3. Active detection of lung cancer: annual fluorographic
4. Research, monitoring of patients in dispensary observation groups.
5. Background and precancerous lung diseases.
6. Pathological anatomy of lung cancer.
7. Ways of spread of lung cancer.
8. Classification of lung cancer according to the TNM system.
9. Clinical manifestations of lung cancer (clinical forms). Characteristic symptoms of lung cancer (pulmonary, extrapulmonary, paraneoplastic). Features of clinical manifestations depending on the location and stage of the process.
10. Features of the course of lung cancer depending on age.
11. Diagnosis of lung cancer.
12. Differential diagnosis of lung cancer.
13. Complications of lung cancer.
14. Treatment of lung cancer according to the stage of the process.
15. Prognosis, clinical observation and rehabilitation.

Questions for module No. 4

1. Statistical data on the prevalence of mastopathy among the female population.
2. Anatomy and physiology of the mammary glands.
3. Factors determining the development of dishormonal hyperplasia of the mammary gland.
4. Clinical and morphological classification of dishormonal hyperplasias.
5. Symptomatology of nodular forms of mastopathy.
6. Symptomatology of diffuse forms of mastopathy.
7. Diagnosis of dishormonal hyperplasias.
8. Differential diagnosis of mastopathy.
9. Treatment of dys hormonal breast hyperplasia.
10. Surgical interventions for nodular mastopathy.
11. Clinical observation of patients with dishormonal hyperplasia of the mammary glands.
12. Incidence and mortality from breast cancer in the world, Russia
13. Factors influencing the development of breast cancer.
14. Pathogenetic forms of breast cancer
15. Active detection of breast cancer: self-examination , preventive examinations in organized teams, examination of patients in examination rooms of clinics, monitoring of patients in dispensary observation groups.
16. Background and precancerous diseases of the breast.
17. Pathological anatomy of breast cancer
18. How breast cancer spreads
19. Classification of breast cancer according to the TNM system
20. Clinical manifestations of breast cancer (clinical forms). Characteristic skin symptoms of breast cancer. Features of clinical manifestations depending on the location and stage of the process.
21. Features of the course of breast cancer depending on age.
22. Diagnosis of breast cancer
23. Differential diagnosis of breast cancer.
24. Complications of breast cancer.

25. Treatment of breast cancer
26. Clinical observation and rehabilitation of patients with breast cancer.

Questions for module No. 5

1. Risk factors influencing the development of esophageal cancer.
2. Pre-tumor and background diseases of the esophagus.
3. Primary and secondary prevention of cancer.
4. Classification of esophageal cancer according to TNM.
5. Morphological classification of esophageal cancer.
6. Clinical picture of esophageal cancer depending on location.
7. Diagnosis (standards) of esophageal cancer.
8. Treatment tactics (standards) for esophageal cancer.
9. Prognosis factors for esophageal cancer.
10. Clinical observation for esophageal cancer
11. Rehabilitation of patients with esophageal cancer.
12. Morbidity and mortality from stomach cancer in the world, Russia.
13. Factors influencing the development of stomach cancer.
14. Active detection of stomach cancer: preventive examinations, questionnaire method, gastrofluorography , formation of high-risk groups.
15. Background and precancerous diseases of the stomach.
16. Pathological anatomy of stomach cancer.
17. Early stomach cancer.
18. Ways of spread of stomach cancer.
19. Classification of cancer according to the TNM system.
20. Clinical manifestations of stomach cancer (symptoms of early and late stages of cancer).
21. Features of clinical manifestations depending on the localization of the tumor process in the stomach. Clinical forms of stomach cancer.
22. Features of the course of gastric cancer in young people.
23. Stomach cancer in the elderly.
24. Diagnosis of stomach cancer.
25. Differential diagnosis of stomach cancer.
26. Complications of stomach cancer.
27. Treatment of stomach cancer.
28. Clinical observation for stomach cancer
29. Rehabilitation of patients with stomach cancer.

Questions for module No. 6

1. Types and methods of irradiation.
2. The place of radiation therapy in the treatment of cancer.
3. Radiation therapy in the combined treatment of malignant tumors.
4. Goals of intraoperative radiotherapy.
5. Prevention and treatment of post-radiation complications.
6. Principles of clinical chemotherapy.
7. Objectives of neoadjuvant chemotherapy.
8. Principles and criteria for the effectiveness of adjuvant chemotherapy.
9. Objectives of adjuvant chemotherapy.
10. Objectives of hormone therapy.
11. Groups of hormonal agents and their mechanism of action, hormonocytostatics .
12. Targeted drugs (molecularly targeted) and their use in the treatment of cancer .

Questions for module No. 7

1. Radiation anatomy of the liver and bile ducts.

2. Radiation methods for studying the morphology and function of the liver and biliary tract.
3. Diagnostic capabilities in the study of the liver and biliary tract.
4. Methods of artificial contrast for X-ray examination of the gallbladder (cholecystography, cholegraphy, cholangiography).
5. Diseases of the liver and biliary tract.
6. Benign tumors and malignant tumors of the liver and biliary tract.

Questions for module No. 8

1. Radiation anatomy of the kidneys and urinary tract.
2. Diagnostic capabilities of ultrasound in identifying pathology of the urinary system.
3. Methods of X-ray examination of the urinary tract.
4. Method of intravenous excretory urography.
5. Method of ascending (retrograde) pyelography.
6. Diagnostic capabilities of computed tomography in the study of excretory organs.
7. Diagnostic capabilities of magnetic resonance imaging in the study of excretory organs.
8. Benign tumors and malignant tumors of the kidneys and urinary tract.
9. Diseases of the kidneys and urinary tract.

Questions for module No. 9

1. Radiation anatomy of the uterus and ovaries.
2. Radiation research methods in obstetrics and gynecology.
3. Radiation anatomy of the mammary gland.
4. Radiation picture for breast cancer.
5. Radiation picture for mastopathy, mastitis.
6. Tuberculosis of the internal female genital organs.
7. Malformations of the uterus and vagina.
8. Benign tumors and malignant tumors of the female genital organs.

Questions for module No. 10

1. X-ray anatomy of the ear.
2. X-ray anatomy of the nose, nasopharynx and paranasal sinuses.
3. Age-related patterns of the nose, nasopharynx and paranasal sinuses.
4. Ear diseases.
5. Diseases of the nose, nasopharynx and paranasal sinuses.
6. Diseases of the eye and orbit.
7. Benign and malignant tumors of ENT organs.
8. Diseases of the thyroid and parathyroid glands.

Questions for module No. 11

1. X-ray anatomy, methods of studying the maxillofacial region.
 2. Radiation diagnostics, diseases of the maxillofacial region.
 3. Radiation diagnostics of benign tumors of the maxillofacial region.
- Radiation diagnostics of malignant tumors of the maxillofacial region.

Questions for testing

1. In what year were X-rays discovered, what they are, their properties.
2. Radioactivity, radioactive radiation and their characteristics.
3. Structure of the atom and atomic nucleus.
4. Interaction of ionizing radiation with atoms of matter.
5. The structure of the atom and the periodic system of elements D.I. Mendeleev.
6. Natural radiation and its components.
7. Activity, units of activity.
8. Units of dose of penetrating radiation and dosimetry methods.
9. Artificial radioactivity, radioactive isotopes and their production. Who owns the discovery of artificial radioactivity?
10. Methods for recording radiation, design of gas-discharge and scintillation detectors.
11. Thermography or thermal imaging techniques, the principle of obtaining images.
12. Ultrasound diagnostic technique, principle of image acquisition.
13. Classification of X-ray examination methods, principle of obtaining images.

14. Basic methods of x-ray examination, the principle of obtaining images.
15. Additional methods of x-ray examination, the principle of obtaining images.
16. Special methods of x-ray examination, the principle of obtaining images.
17. Computer tomography and its diagnostic capabilities, the principle of obtaining images.
18. Magnetic resonance imaging and its diagnostic capabilities, the principle of obtaining images.
19. Radionuclide diagnostics, fundamentals and capabilities, principle of image acquisition.
20. X-ray surgical methods of diagnosis and treatment.
21. Ultrasound diagnostics, its types, diagnostic capabilities, principles of image acquisition.
22. Radiation anatomy of the lungs.
23. Basic methods of x-ray examination of the lungs.
24. Basic radiological syndromes of lung pathology in X-ray images.
25. Extensive darkening of the pulmonary field syndrome.
26. Syndrome of extensive clearing of the pulmonary field.
27. Syndrome of limited darkening of the pulmonary field.
28. Syndrome of limited clearing of the pulmonary field.
29. Syndrome of a rounded shadow in the pulmonary field.
30. Ring-shaped shadow syndrome in the pulmonary field.
31. Syndrome of limited dissemination in the pulmonary fields.
32. Syndrome of widespread dissemination in the pulmonary fields.
33. Syndrome of focal shadows in the pulmonary field.
34. Radiation research techniques used to recognize bronchial pathology.
35. Bronchial obstruction syndrome.
36. X-ray diagnosis of pneumonia.
37. Classification of pneumonia.
38. X-ray diagnosis of lung abscess.
39. Classification of pleurisy. X-ray diagnosis of effusion pleurisy.
40. X-ray diagnosis of pneumothorax and atelectasis.
41. X-ray diagnosis of primary pulmonary tuberculosis complex.
42. X-ray diagnosis of tuberculous bronchoadenitis.
43. X-ray diagnosis of disseminated pulmonary tuberculosis.
44. X-ray diagnosis of focal pulmonary tuberculosis.
45. X-ray diagnostics of the infiltrative-pneumonic form of pulmonary tuberculosis.
46. X-ray diagnosis of pulmonary tuberculoma .
47. X-ray diagnosis of the cavernous form of pulmonary tuberculosis.
48. X-ray diagnostics of the fibrous-cavernous form of pulmonary tuberculosis.
49. The role of fluorography in the detection of pulmonary tuberculosis.
50. The role of tomography in identifying pulmonary tuberculosis.
51. Classification of lung tumors.
52. X-ray diagnosis of central lung cancer.
53. X-ray diagnosis of peripheral lung cancer.
54. X-ray diagnosis of pulmonary echinococcus.
55. Radiation anatomy of the heart. Arcs of the cardiac contour in direct and oblique projections.
56. What are the arcs of the cardiac circuit. Which parts of the heart and blood vessels form the arches in the anterior projection.
57. Which parts of the heart correspond to each arch in the first and second oblique positions.
58. What is the X-ray picture of mitral heart defects.

49. What is the X-ray picture of aortic heart defects?
50. X-ray diagnosis of myocardial lesions.
51. X-ray diagnosis of pericardial lesions.
52. Diagnostic capabilities of ultrasound in identifying pathology of the heart and great vessels.
53. What are the methods for studying the great vessels and indications for them.
54. What are the methods for studying peripheral vessels and indications for them.
55. Radiation anatomy of the esophagus.
56. Radiation techniques for studying the digestive canal, artificial contrast of the gastrointestinal tract.
57. Oncology, radiation therapy of foreign bodies of the esophagus.
58. Diverticula of the esophagus, their classification and x-ray picture.
59. X-ray diagnosis of esophageal achalasia .
60. X-ray diagnosis of esophageal burns.
61. Macromorphological forms of esophageal cancer, their X-ray diagnosis.
62. X-ray semiotic signs of tumors of the gastrointestinal tract.
63. Radiation anatomy of the stomach.
64. Radiation techniques for studying the stomach.
65. What data on the morphology of the stomach can be obtained by x-ray examination.
66. X-ray diagnosis of gastritis.
67. What are the direct radiological signs of gastric and duodenal ulcers?
68. What are the indirect radiological signs of gastric ulcer.
69. X-ray diagnosis of complications of gastric and duodenal ulcers.
70. X-ray diagnosis of stomach cancer.
71. Methodology for studying the large intestine.
72. X-ray diagnosis of colon tumors.
73. X-ray diagnosis of acute intestinal obstruction.
74. Radiation anatomy of the kidneys and urinary tract.
75. Diagnostic capabilities of ultrasound in identifying pathology of the urinary system.
76. Methods of X-ray examination of the urinary tract.
77. Method of intravenous excretory urography.
78. Method of ascending (retrograde) pyelography.
79. Diagnostic capabilities of computed tomography in the study of excretory organs.
80. Diagnostic capabilities of a magnetic resonance imaging scanner in the study of excretory organs.
81. Radiation anatomy of the uterus and ovaries.
82. Radiation research methods in obstetrics and gynecology.
83. Radiation anatomy of the mammary gland.
84. Radiation picture for breast cancer.
85. Radiation picture for mastopathy, mastitis.
86. Radiation anatomy of the liver and bile ducts.
87. Radiation methods for studying the morphology and function of the liver and biliary tract.
88. Diagnostic capabilities in the study of the liver and biliary tract.
89. Methods of artificial contrast for X-ray examination of the gallbladder (cholecystography, cholegraphy , cholangiography).
90. Radiation anatomy of bones and joints.
91. X-ray features of the image of bones and joints in children.
92. Radiation methods for studying bones and joints.
93. Age-related features of bones and joints during radiation studies.
94. Possibilities of radionuclide diagnostics in studies of bones and joints.

95. Osteoporosis syndrome.
96. Osteosclerosis syndrome.
97. Types of fractures, x-ray diagnosis of fractures.
98. X-ray diagnosis of dislocations and subluxations.
99. Features of fractures in childhood.
100. Healing of fractures in x-ray image.
101. Oncology, radiation therapy of acute and subacute (chronic) hematogenous osteomyelitis.
102. Oncology, radiation therapy of traumatic osteomyelitis.
103. X-ray diagnosis of tuberculous spondylitis.
- 104.0 Oncology, radiation therapy of benign bone tumors.
105. Oncology, radiation therapy of malignant bone tumors.

**Federal State Budgetary Educational Institution
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of the Russian Federation**

Department of Radiation Diagnostics with Radiation Therapy and Oncology
Faculty/ Specialty General Medicine Course **/Year 6**
Discipline Oncology, radiation therapy

Situational task No. 1

Patient B., 53 years old. Family history: maternal breast cancer. Menstruation from age 11. Complaints about an increase in the size of the left mammary gland, redness of the skin.

Objectively: the mammary gland is enlarged in volume, compacted, the skin over it is hyperemic, has the appearance of a lemon peel. According to the results of additional examination (x-ray examination of the lungs, ultrasound of the pelvis and abdominal cavity): there are no signs of dissemination of the process.

The diagnosis was made: Primary edematous-infiltrative cancer of the left breast. T 4N0M0. The patient is recommended to undergo radiation treatment.

What are the basic principles of pre-radiation preparation of a patient?

Your conclusion:

1) morphological verification of the malignancy of the process. 2) determine the degree of tumor differentiation and its biological characteristics. 3) conduct a clinical assessment of the patient's general condition. 4) marking - determining the center and boundaries of the irradiation field. 5) dosimetry - building a picture of the dose field and simulating a dosimetric treatment plan.

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Department of Radiation Diagnostics with Radiation Therapy and Oncology

Faculty/ Specialty General Medicine Course

/Year 6

Discipline Oncology, radiation therapy

Situational task No. 2

Patient N, 30 years old, consulted her local physician with complaints of enlarged axillary and inguinal lymph nodes on both sides. Over the past 6 months, the patient has lost 10 kg, notes an evening rise in body temperature to 38 C, and increased night sweats. On examination: severe asthenia, axillary and inguinal lymph nodes are sharply enlarged, inactive, painless .

Questions: 1. What disease can be assumed in this patient based on the history and examination? 2. What diagnostic measures can confirm the diagnosis?

Your conclusion.

1. Non-Hodgkin lymphoma (blastic variant).
2. Diagnostic puncture aspiration biopsy, open biopsy of lymph nodes with collection of material for histological examination, general and biochemical blood tests.

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Department of Radiation Diagnostics with Radiation Therapy and Oncology

Faculty/ Specialty General Medicine Course

/Year 6

Discipline Oncology, radiation therapy

Situational task No. 3

Patient P., 48 years old. Complains of soreness, pain when swallowing, sensation of a foreign body in the throat. Examination revealed enlarged cervical lymph nodes. A fibrolaryngoscopy was performed : the mucous membrane of the posterior pharyngeal wall is infiltrated, there is ulceration, and it bleeds on instrumental palpation. A diagnosis was made: cancer of the hypopharynx. Combined treatment is planned: surgery and radiation therapy.

What are the possible adverse reactions during radiation therapy in this patient?

Your conclusion.

- 1) hearing impairment.
- 2) a feeling of heaviness in the head.
- 3) dry mouth, soreness, hoarseness.

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Situational task No. 4

Patient M., 39 years old. Complaints about the presence of a tumor on the outer surface of the right shoulder, which has increased in size over the past 2 months. On examination: on the lateral surface of the shoulder there is a nodular formation, measuring 3x4 cm, on a wide base, with a pronounced vascular component, burgundy-brown in color, bleeds easily on palpation, painless. In the right axilla, lymph nodes enlarged to 2 cm are palpated. No distant metastases were detected.

What is your presumptive diagnosis?

What is your treatment regimen for this patient?

What are the ways of metastasis of this tumor?

Your conclusion:

Melanoma of the skin of the shoulder. T x N 2 M x.

Treatment: wide excision of the tumor within healthy tissue, regional lymphadenectomy with “+” sentinel lymph node. Lymphogenous , transient (intradermal), hematogenous (bones, lungs, brain).

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Situational task No. 5

A 71-year-old patient complained of skin formation in the area of the right shoulder and pain when raising the right upper limb. From the anamnesis it is known that education in this area has existed for 3 years. Appeared in the area of a burn received 10 years ago. In the last year, I have noticed a thickening of the formation and an increase in its size.

On examination: on the skin of the right shoulder there is a 4x3 cm formation, slightly protruding above the surface of the skin, with the presence of hyperkeratosis along its periphery. There was a significant increase in the axillary lymph nodes on the right, which merged into a conglomerate up to 5 cm in diameter. On palpation they have a dense elastic consistency. Painless.

Tasks

1. Formulate and justify the presumptive diagnosis. What diseases need differential diagnosis?
2. Name the necessary additional research.
3. Determine your tactics in relation to the patient, tell us about the principles of treatment.

Sample answers:

The patient has squamous cell carcinoma of the skin of the right shoulder with metastases to the axillary lymph nodes. Differential diagnosis must be made with basal cell carcinoma .

Rationale:

1. History of burn, clinical picture, metastatic lesion of regional lymph nodes.
2. Scraping from the surface of the tumor, puncture of enlarged axillary lymph nodes with cytological examination
3. Surgical treatment in the form of excision of the tumor of the skin of the right shoulder and right-sided axillary lymphadenectomy .
4. Adjuvant radiation therapy.

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Situational task No. 6

A 68-year-old smoker developed a formation on the mucous membrane of the red border of the lower lip, covered with a crust. A dense lymph node up to 2 cm is palpated on the left side of the neck.

- A) What is your preliminary diagnosis?
- B) By what method can this be established?
- C) Treatment tactics for this patient ?

Answer: A) cancer of the lower lip.

B) It is necessary to perform a scraping or biopsy, i.e. using morphological data.

C) Depending on the somatic status of the patient and the extent of the tumor, surgical treatment or chemo -radiation treatment can be performed at the first stage .

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Situational task No. 7

2 years after treatment for cancer of the lower lip, a woman developed dense lymph nodes in the submandibular region on the left.

A) What is your preliminary diagnosis?

B) What are your further tactics for further examination and treatment?

Answers:

A) Metastases in the neck.

B) Ultrasound examination with puncture from an enlarged l/node, followed by surgery or chemo -radiation treatment

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Situational task No. 8

Patient Zh., 50 years old, radiologist. History: goiter, elevated TSH levels. Family history: grandmother died of thyroid cancer. Complaints about an increase in the growth rate of goiter, the appearance of compaction in the gland tissue. Objectively: body temperature is N, the thyroid gland is enlarged in size, a compaction without clear boundaries is palpated in the gland tissue. According to the results of the examination, an increased level of calcitonin is noteworthy. What is your diagnosis? What diseases need differential diagnosis?

Answer: Medullary thyroid cancer.

Differential diagnosis :

- 1) acute and chronic strumitis .
- 2) thyroiditis of de Kervel, Hashimoto , Riedel .
- 3) tumors of the parathyroid glands.

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Situational task No. 9

A 43-year-old patient complained of heavy discharge from the nipple of the right breast. They have been bothering me for 2 months. At first the discharge was light yellow in color, but recently it has acquired a brown tint. During the last mammogram performed 6 months ago, no pathology was detected. On examination: The mammary glands are symmetrical. When pressing on the right nipple, a brown discharge is noted. There is no discharge from the left nipple. On palpation, nodular formations are not identified. Regional lymph nodes are not enlarged.

Tasks

1. Formulate and justify the presumptive diagnosis. What diseases need differential diagnosis?
2. Name the necessary additional research.
3. Determine your tactics in relation to the patient, tell us about the principles of treatment, the prognosis of the disease.

Answer:

1. Intraductal papilloma of the right breast. It should be differentiated from intraductal breast cancer.

Rationale:

- a. anamnesis and objective examination data: complaints of discharge from the nipple, corresponding in nature to intraductal papilloma.
 - b. objective data: absence of nodular formations during palpation and mammography.
2. Cytological examination of nipple discharge. Papilloma is characterized by the presence of ductal epithelial cells, hemosiderin. Ductography to confirm the presence of papilloma, as well as its location.
3. The patient requires hospitalization and inpatient treatment
- Treatment principles:**
- Performing a central sectoral resection of the right breast with removal of ducts containing papillomas with urgent histological examination. Once the diagnosis of intraductal papilloma is confirmed, the prognosis is favorable.

Situational task No. 10

Patient A. 58 years old, car mechanic 40 years old, smokes 45 years old. My father died of lung cancer. Complaints of cough with streaks of blood in the sputum, pain in the right side, shortness of breath. Lost weight in 3 months 8 kg. Objectively: the peripheral lymph nodes are not enlarged; percussion of the chest reveals dullness of the percussion sound on the right back from the 4th rib down; Auscultation : weakened breathing on the right in the lower parts. X-ray: on the right - homogeneous darkening in the lower parts of the chest, volumetric decrease in the right lung. Bronchoscopy: the trachea and bronchi on the left are without pathology, on the right the lumen of the intermediate bronchus is slit-like narrowed. Histological examination: poorly differentiated squamous cell carcinoma. Ultrasound of the abdominal organs: liver, kidneys - without pathology. Skeletal scan: no foci of drug accumulation were identified. CT scan of the brain - without pathology. Diagnosis? Treatment tactics?

Answer: central cancer of the intermediate right bronchus. Atelectasis of the lower lobe on the right. Pleurisy. Treatment tactics: pleural puncture in the 6th intercostal space on the right along the midscapular line. Analysis of pleural fluid for the presence of atypical cells. Tomography of the main and intermediate bronchus on the right.

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Situational task No. 11

Patient V., 60 years old, driver, 40 years old. Smokes for 45 years. My father died of esophageal cancer. Complaints of difficulty swallowing solid food. Lost weight in the last 3 months by 7 kg. Objectively: peripheral lymph nodes are not enlarged, breathing is vesicular, there is no dullness of percussion sound. X-ray examination of the chest: in the lungs there is no pathology, in the esophagus in the middle third there is a narrowing of the lumen due to a filling defect along the right-posterior wall along the length of 5 cm., deformation of the contours of the esophagus. Esophagoscopy: in the middle third at the level 29 cm from the anterior incisors along the posterior wall there is an exophytic formation narrowing the lumen of the esophagus to 0,9 cm. Biopsy. Histological examination: squamous cell carcinoma. Ultrasound of the abdominal cavity: no pathology was detected.

Diagnosis? Treatment tactics?

Answer: predominantly exophytic cancer of the middle third of the esophagus, grade 2. T 2 NXM 0. Surgical treatment including subtotal resection of the esophagus and plastic surgery is indicated. Lewis type operation.

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Situational task No. 12

Patient L., 55 years old, mechanic. Mother died of stomach cancer. History of chronic colitis. Complaints of unstable stool, periodic pain in the lower abdomen. Objectively: the abdomen is soft, painful in the lower parts, where a tumor formation is palpable. Irrigoscopy : the lumen in the sigmoid colon is narrowed due to a symmetrical filling defect. Fiber colonoscopy : no pathology was detected in the rectum, in the sigmoid colon the lumen is narrowed due to infiltration. Biopsy. Histologically : adenocarcinoma . Ultrasound of the abdominal cavity: a tumor lesion of the sigmoid colon, liver, and kidneys without pathology was detected. Diagnosis? Treatment tactics?

Answer: stage 3 sigmoid colon cancer. Surgery. Resection of the sigmoid colon, postoperative chemotherapy.

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Situational task No. 13

Patient Kh., 23 years old. Complaints of pain in the left leg, intense, disturbing at night. Objectively: in the area of the lateral surface of the middle third of the left thigh, a tumor-like formation is palpated, inactive, of rocky density, measuring 5x6 cm. The inguinal lymph nodes are enlarged, of dense elastic consistency, sizes from 1 to 2 cm, painless. The patient underwent a radioisotope study of the skeletal bones, P CT: the tumor is located in the middle third of the femur, extending up to 6 cm, extending beyond the cortical layer. Increased levels of alkaline phosphatase and LDH were detected in the blood serum .

What is your diagnosis? What study should be performed for morphological verification of the tumor? What is the treatment plan?

Answer: Osteogenic sarcoma of the left thigh. T 2 N 1 M 0. Open tumor biopsy. Treatment: intra-arterial chemotherapy, surgery involving bone removal with endoprosthetics , postoperative chemotherapy.

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Situational task No. 14

Patient R., 35 years old. Complains of increased body temperature up to 38 ° for several days in a row, night sweats, weight loss, itching, and the presence of a tumor-like formation in the neck. On examination, enlarged cervical and occipital lymph nodes are palpated. In the lungs, vesicular breathing is carried out in all sections. The abdomen is soft and painless. Blood test : ESR 30 mm/h, fibrinogen 570 mg%, lymphocytes 27%.

What is your presumptive diagnosis? What is the scope of examination of this patient? What cells are found during histological examination of this type of tumor?

Answer: Lymphogranulomatosis. 1) puncture of enlarged lymph nodes 2) x-ray. chest organs 3) Ultrasound, CT scan of the abdominal organs 4) trephine biopsy of the ilium, if necessary, liver puncture. Multinucleated Berezovsky- Stenberg cells and mononuclear Hodgkin cells .

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Situational task No. 15

A 47-year-old patient was admitted with complaints of paroxysmal girdling pain. Ill for 5 years. An X-ray examination of the upper digestive tract in the stomach on an empty stomach revealed a significant amount liquids. The volume of the stomach is increased. The folds of the mucous membrane are punctate . Notes periodically occurring spasm of the pylorus. Duodenal bulb deformed: along its postero -medial wall there is a “niche” measuring about 2 cm in diameter with signs of three layers . The passage of the contrast agent through the duodenum is slowed down, and duodeno-gastric reflux periodically occurs.

Your conclusion:

Duodenal diverticulum

Penetrating ulcer of the duodenal bulb, accompanied by deformation of the bulb, penetration into the pancreas and possibly the hepatoduodenal ligament.

Functional changes in the form of impaired motor- evacuation function of the stomach, hypersecretion.

Duplication of the duodenum. Megaduodenum .

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Situational task No. 16

Male 48 years old.

Complaints: pain in the right shoulder joint, weakness, cough.

History: pain in the right shoulder joint first appeared 3 months ago after physical activity, I was self-medicating, the pain became more intense, a cough appeared, and weakness began to increase. He was examined at the clinic at his place of residence, and pathology was detected in the lung.

Objectively: the condition is satisfactory, the range of movements in the right shoulder joint is sharply limited, pain is expressed on palpation. Horner's sign (ptosis , miosis , enophthalmos).

Auscultation : weakened breathing in the upper part of the right lung.

X-ray picture: in the apical segment of the upper lobe of the right lung there is a nodular formation 4 cm in diameter, of heterogeneous structure, closely adjacent to the chest wall, with destruction of the posterior segment of the second rib over 3 cm, the apical pleura is unevenly thickened, the angles formed with it are sharp, the lower border is convexly directed downwards, the surface is finely lumpy with radiant contours. Enlarged lymph nodes in the root zone and mediastinum are not detected.

Your conclusion:

Tuberculoma . Pencoast cancer . Tumor of the pleura.

Apical encysted pleurisy.

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Situational task No. 17

Over the past year, the patient has been bothered by periodic pain on the right lateral surface of the tongue. About 10 months ago a lump appeared in this place. I went to the doctor. The doctor's tactics?

Answer: Ultrasound examination of the tongue and regional areas, biopsy or puncture from the area of compaction in the tongue, computed tomography of the floor of the mouth and neck.

Situational task No. 18

Woman 54 years old.

Complaints: cough with copious sputum, malaise, shortness of breath, chest pain, weakness.

History: she fell ill 6 months ago, after suffering an acute respiratory infection, she began to notice a cough with sputum, the cough gradually intensified, and the amount of sputum discharge increased. Later, weakness and chest pain began, and she gradually lost weight. Objectively: condition of moderate severity, low nutrition. The skin is pale, mild acrocyanosis. Shortness of breath up to 36 bpm, pulse 116 beats/min, blood pressure 150/90. During percussion: in the lower parts of the lungs there is an uneven shortening of the percussion sound. Auscultation: moist rales of various sizes.

The ECG shows the load on the right side of the heart.

On X-ray examination, in the lower lobes of the lungs on both sides and in the middle lobe on the right, there are areas of heterogeneous infiltrative compaction of the lung tissue of irregular shape in places with unclear contours, infiltration from the middle lobe on the right through the interlobar fissure spreads to the anterior segment of the upper lobe, and on the left - to the lingular segments. Against the background of compaction, the lumens of the lobar and segmental bronchi can be traced. No enlarged lymph nodes are detected in the root zones and mediastinum.

Your conclusion: 1. Bilateral pneumonia

Bronchiolo-alveolar cancer.

Pulmonary edema.

Infiltrative pulmonary tuberculosis.

Situational task No. 19

Male 56 years old.

Complaints of cough, periodic hemoptysis, weakness, weight loss, pain in the left half of the chest.

History: for 1.5 months I have been bothered by a persistent, gradually increasing cough; in recent days, hemoptysis has occurred. I lost 5 kg. Shortness of breath appeared during physical activity.

Objectively: satisfactory condition, blood pressure 130/85 mm Hg Art., pulse 86 beats/min, respiratory rate 24. Auscultation on the left in the upper part of the weakened vesicular breathing.

On X-ray examination, the upper lobe of the left lung is reduced in volume, heterogeneously compacted, and the pulmonary pattern is condensed. The upper lobe bronchus is conically narrowed, its walls are uneven. The interlobar pleura is displaced upward. There are enlarged lymph nodes in the root zone and under the aortic arch.

Your conclusion:

Infiltrative tuberculosis. Acute pneumonia.

Central cancer. TELA.

Practical skills plan

Descriptions of chest radiographs.

1. What kind of study is this and in what projection was the radiograph taken?
2. Indicate whether a contrast agent was used for the study, if (yes) –
That
which. How is it distributed in the anatomical structure being studied?
(evenly,
are there any pathological accumulations, leaks, etc.).
3. Compare the size and shape of the left and right halves of the chest, as well as the
degree of transparency of the lung fields (is there hypoventilation ,
hyperventilation).
4. Compare the state of the symmetrical sections of the lungs and decide whether there are
darkening, clearing, or a combination of them.
5. Determine the location of the observed changes in the pulmonary fields, if any (in the
medial or lateral, upper, middle or lower pulmonary field, at the apex of the lung, at the
level of which ribs), as well as the magnitude. Shape,
state
contours, uniformity, shadows, its intensity.
6. Determine the state of the pulmonary pattern (unchanged or changed). If there are
changes, then what (strengthening, depletion, deformation) and where - (totally,
locally – specify localization).
7. Describe the condition of the roots of the lungs - is the structure preserved?
or
no expansion, are there additional shadows against the background of their projection (if
yes, then give a description of these shadows.
8. Give a description of the position of the mediastinal organs: is there a displacement of
them, if so, in which direction (towards healthy, towards pathological changes) and to
what extent.
9. Determine which group of pathology the changes belong to: diseases of the lungs,
bronchial tree, pleura.
10. Give your conclusion.

Descriptions of radiographs of bones and joints.

1. What and in what projection is shown on the x-ray?
 2. Define:
 - is there a violation of the position, size, shape of the bone?
 - are there changes in the intensity of the shadow of the bone and a violation of its structure (osteoporosis , osteosclerosis, destruction, osteonecrosis , sequestration).
 - where the pathological process is localized (epiphysis, metaphysis , diaphysis), its magnitude,
- form.
- state of the contours of the pathological shadow (in the presence of periosteal changes - clarify their character) .
 - the state of the x-ray joint space (is there a change in shape, width) .
 - condition of soft tissues in the area of pathological changes
3. Indicate whether the study was performed using a contrast agent
(If yes, then with which one) .
 4. Determine which group of pathologies the changes shown on the x-ray belong to.
 5. Date your conclusion.

Descriptions of radiographs of the digestive organs .

1. What is shown and in what projection was the radiograph taken?
 2. What contrast agent was used in the study, and how was it administered?
 3. after the administration of the contrast agent was the radiograph taken?
(immediately, after 30 minutes, after 1 hour, after 12 hours).
 4. Determine if there are changes in the position, shape or size of the completed section of the digestive tract.
 5. Determine whether there is a change in the size of the lumen of the area under study (expansion, narrowing).
 6. Indicate whether there are niches, local protrusions, or filling defects in the section of the digestive tract being examined. Describe the localization in detail,
- form
- these changes, the state of their contours (clear - fuzzy, smooth - uneven).
7. Describe the state of the folds of the mucous membrane (thinning, thickening, incorrect location, breakage, convergence).
 8. To what group of pathology do the detected changes belong?
 9. Give your conclusion.

Descriptions of radiographs of the spine.

1. Area of research.
2. Projection of the image (direct, lateral, oblique, others).
3. Image quality assessment (physical and technical characteristics: optical

density,

contrast, image sharpness, absence of artifacts and veils).

4. Condition of soft tissues, especially para- prevertebral tissues (shape , volume, intensity and structure of the shadow).
5. The severity of physiological (lordosis , kyphosis) and the presence of pathological (scoliosis, kyphosis) bends.
6. Vertebral condition:
 - body (position , shape, size , contours, structure, ossification nuclei in young people).
 - arches (position , shape, size , contours, structure).
 - processes ((position, shape, size , contours, structure of the ossification nucleus in young people).
7. Condition of the intervertebral joints (facet joints , uncovertebral joints; in the thoracic region – costovertebral and costotransverse).
8. Condition of intervertebral discs (X-ray intervertebral spaces) - shape, height, shadow structure.
9. Condition of the spinal canal (shape and width).
10. Condition of other visible parts of the skeleton.
11. X-ray morphometry (for functional studies, scoliosis, etc.).
12. X-ray (clinical -radiological) conclusion.
13. Recommendations.

Descriptions of radiographs of the skull.

1. Projection (overview and special).
2. Assessment of the correctness of installation (according to criteria for each projection).
3. Assessment of image quality (physical and technical characteristics: optical density, contrast , image sharpness, absence of artifacts and veils).
4. Overall shape and size of the skull.
5. Correlation between the brain and facial regions.
6. Condition of the soft tissues of the skull (shape, volume, intensity and structure of the shadow) .
7. Condition of the cranial vault (shape and size, thickness and structure of bones, condition of the outer and inner plates and spongy layer, position and condition sutures, condition of vascular grooves, venous outlets, pachyonic fossae, severity of “finger impressions,” pneumatization frontal sinuses) .
8. Condition of the skull base (configuration and dimensions, boundaries and contours of the anterior, middle and posterior cranial fossae, dimensions of the angles of the skull base, condition sella turcica, pneumatization of bones, condition of natural openings in the area base of the skull and pyramids of the temporal bones) .
9. Presence of calcifications in the skull area and analysis of their shadows (physiological or pathogenic) .
10. General overview of the facial part of the skull (shape, size) .
11. Condition of soft tissues in the area of the facial skull (shape, volume, intensity and structure of the shadow) .
12. Condition of the eye sockets (shape, size, contours).

13. The nasal cavity and pyriform opening (position, shape, size , pneumatization , condition of the nasal turbinates) .
14. State of the cells of the ethmoid labyrinth (position, shape, size , contours, pneumatization) .
15. Condition of the maxillary sinuses (position, shape, size , contours, pneumatization) .
16. The condition of the visible parts of the jaws and teeth.
17. X-ray morphometry .
18. X-ray (clinical- radiological) conclusion.
19. Recommendations.

Descriptions of radiographs of the urinary system.

1. Conditions of the study (type, concentration, quantity and method of administration of contrast agent, projection and sequence of images: position patient, breathing tests, etc. conditions).
2. Assessment of image quality (quality of patient preparation for examination, physical Specifications 6: optical density, contrast, image sharpness, absence of artifacts).
3. The condition of the visible parts of the skeleton.
4. Condition of soft tissues and neighboring organs.
5. Contours of the psoas major muscles, compared on both sides (determined or no, even - uneven, clear - not clear).
6. Position of the kidneys.
7. Kidney shape.
8. Kidney sizes.
9. Kidney contours.
10. Intensity and structure of the bud shadow.
11. The presence of additional shadows in the projection of the urinary tract and other organs of the retroperitoneal space and abdominal cavity, suspicious for stones, petrificates , tumors , etc.
12. Comparative assessment of the release of contrast agent by the kidneys (timing and severity of the nephrographic phase, timing and nature of filling the abdominal cavity with contrast systems) .
13. Position, shape and size of the cups and pelvis.
14. The position, shape, contours and width of the lumen of the various parts of the ureters.
15. The degree and nature of filling of the ureters with a contrast agent.
16. Position, shape, size of the bladder.
17. Contours and structure of the bladder shadow.
18. X-ray (clinical- radiological) conclusion.
19. Recommendations.

Descriptions of radiographs of the heart and large vessels.

1. What kind of study is this and in what projection was the radiograph taken?
2. Indicate whether a contrast agent was used for the study, and if so, what kind. How is it distributed in the anatomical structure under study (evenly, are there pathological accumulations, streaks, etc.).
3. Compare the size and shape of the left and right halves of the chest, as well as the degree of transparency of the lung fields (is there hypoventilation, hyperventilation).
4. Compare the state of the symmetrical sections of the lungs and decide whether there are darkening, clearing, or a combination of them.
5. Determine the location of the observed changes in the pulmonary fields, if any (in the medial or lateral, upper, middle or lower pulmonary field, at the apex of the lung, at the level of which ribs), as well as the magnitude. Shape, state of contours, uniformity, shadows, its intensity.
6. Determine the state of the pulmonary pattern (unchanged or changed). If there are changes, what kind (strengthening, depletion, deformation) and where - (totally, locally - clarify localization).
7. Give a description of the condition of the roots of the lungs - is the structure preserved, is there expansion or not, are there additional shadows against the background of their projection (if yes, then give a description of these shadows).
8. Give a description of the position of the mediastinal organs:
9. Its position in the chest (only for heart defects).
10. Characteristics of the cardiac waist, heart configuration in mitral and aortic defects.
11. Diameter of the heart: the ratio of the right and left diameter.
12. Condition of the heart chambers.
13. Characteristics of heart contractions during research behind the screen (depth, rhythm).
14. Is there a displacement of them, if so, in what direction (towards healthy, towards pathological changes) and to what extent.
15. Condition of the aorta.
16. Determine which group of pathology the changes belong to: diseases of the heart or aorta.
17. Give your conclusion.

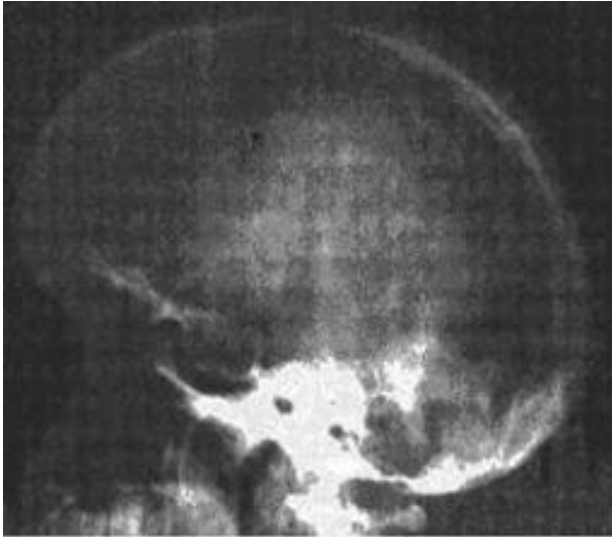
Practical task No. 1

Protocol. Describe the radiograph. (central lung cancer)



Practical task No. 2

Protocol. Describe the radiograph (pituitary adenoma)



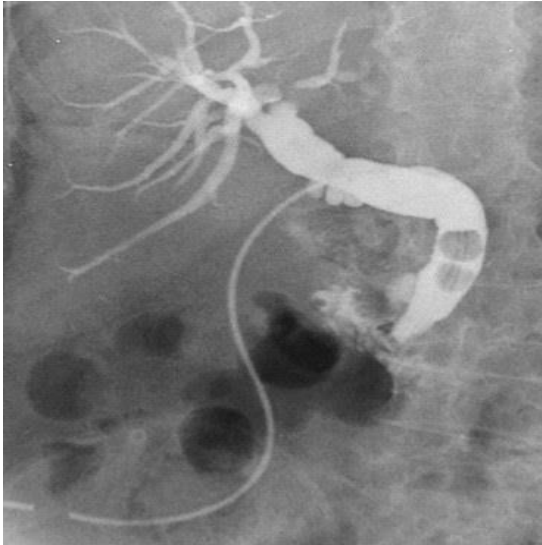
Practical task No. 3

Protocol. Describe the radiograph. (single fibroadenoma with lumps of lime)



Practical task No. 4

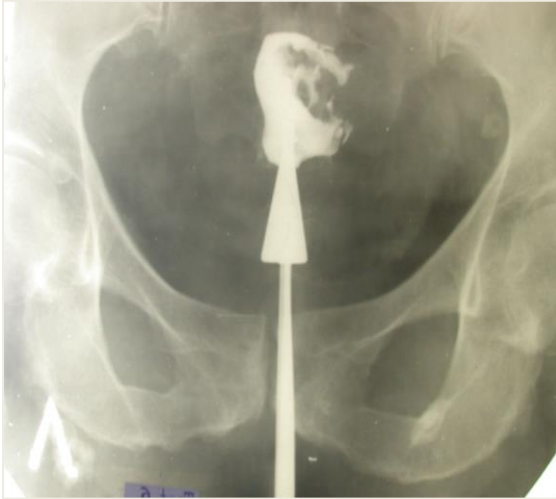
Protocol. Describe the radiograph (cholecystolithiasis)



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Practical task No. 5

Protocol. Describe x-ray (uterine cancer)



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Practical task No. 6

Protocol. Describe the radiograph (urolithiasis)



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Protocol. Describe the radiograph (double left kidney)



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Practical task No. 8

Protocol. Describe the radiograph (antral ulcer)

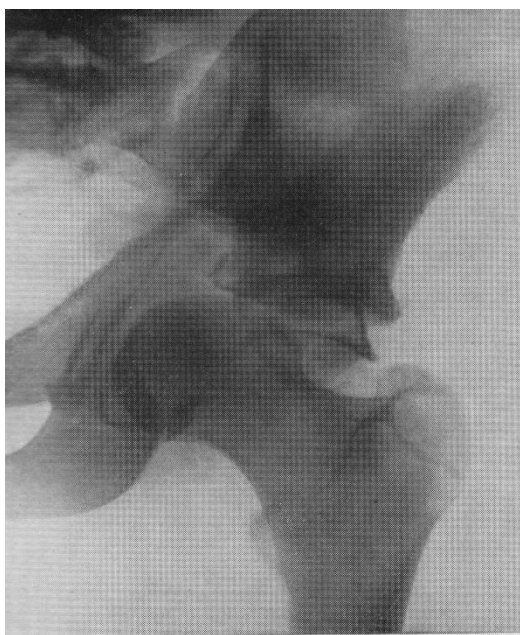


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Practical task No. 9

Protocol. Describe the radiograph (fracture-dislocation of the left hip)



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**Department of Radiation Diagnostics with Radiation Therapy and Oncology
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Discipline Oncology, radiation therapy**

Practical task No. 10

Protocol. Describe the radiograph (osteosarcoma of the shoulder , osteoblastic variant)



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Practical task No. 11

Protocol. Describe the radiograph (follicular cyst)



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Practical task No. 12

Protocol. Describe the radiograph (phobrosarcoma)



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Business game No. 1

In the office of an oncologist, a woman with a referral from a general practitioner regarding the presence of a tumor on the skin of her forehead.

Instructions for simulating a doctor

Your task: to explain further examination tactics and offer to conduct a dermoscopic examination.

Instructions for simulating a patient

Patient: Ask your doctor about the possible risks associated with the examination and prognosis.

Important: insist on the need for a dermoscopic examination. Give arguments in favor of dermatoscopy .

Explanation:

Determine the need for a dermoscopic examination

Describe the dermoscopic picture.

Make a conclusion and refer for further examination if necessary.

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Business game No. 2

A 65-year-old man is in the oncologist's office . He came in on his own without a doctor's referral with complaints of hoarseness and difficulty breathing.

Instructions for simulating a doctor:

Your task: find out additional complaints, how many days the man considers himself sick, and what is associated with the appearance of complaints.

Instructions for simulating a patient:

Instructions for the patient: Complain about hoarseness and difficulty breathing, insist on an examination

Important: due to the lack of a doctor's referral, a preliminary diagnosis, based on the patient's complaints and examination data, determine the need for indirect laryngoscopy. Carry out differential . diagnostics.

Explanation:

Determine the need for laryngoscopic examination

Determine laryngoscopy method

Make a conclusion, refuting or confirming the assumption that the patient has cancer of the larynx.

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Business game No. 3

In the office of an oncologist (in a hospital setting) a patient with suspected intestinal obstruction.

Instructions for simulating a doctor : conduct an x-ray examination (determine the optimal projection, placement, etc.), identify x-ray signs of intestinal obstruction

Your task: describe the photo, write a conclusion

Instructions for the patient :

Describe your complaints about diffuse pain in the abdominal area, increasing over the course of three days.

Important: perform an X-ray examination and make a timely conclusion.

Explanation:

Determine the need for x-ray examination

Determine the method and projection of x-ray examination

Describe the radiograph

Give a conclusion

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Business game No. 4

In the office of an oncologist, a 40-year-old woman with a referral from the clinic for a biopsy of a left breast mass, ultrasound of the mammary glands: BI - RADS on the left - 5, BI - RADS on the right - 2.

Instructions for simulating a doctor : determine the verification method (fine-needle or core biopsy), inform the patient about further tactics

Patient simulation instructions :

Complain of malaise, pain in the left mammary gland

Your task: verify the process

Explanation:

Determine the need for process verification

Determine process verification method

Describe the result of the morphological study

Give a conclusion

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Business game No. 5

In the oncologist's office, a 70-year-old patient complains of blood in the urine, pain in the suprapubic region, with a referral from the local clinic with a preliminary diagnosis of “ Z 03.1 Bladder neoplasm? Susp c - r ”according to ultrasound examination data.

Instructions for simulating a doctor : collect a brief history, complaints, determine the optimal examination method.

Instructions for the patient : complain of intense pain in the suprapubic region, blood in the urine.

Your task: based on the history, complaints and preliminary diagnosis of the referring institution, determine the optimal research method .

Explanation:

Determine the need for a cystoscopic examination

Describe the conclusion of cystoscopy and the results of morphological examination

Give a conclusion

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Business game No. 6

A 30-year-old woman is in the radiologist's office with a referral from an ENT doctor for a biopsy of a mass in the nasal mucosa of the right sinus.

Instructions for simulating a doctor : determine the method and projection for the biopsy

Instructions for the patient : complain of headaches, bloody discharge from the nose, difficulty in nasal breathing on the right.

Your task: determine the method and projection for x-ray examination

Explanation:

Determine the need for a biopsy

Determine biopsy method

Describe the result of the morphological study

Give a conclusion

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Business game No. 7

In an oncology office in an oncology clinic, a 55-year-old woman is referred for an oral biopsy with a diagnosis of “ Z 03.1 Oral cavity neoplasm? Susp c - r ”

Instructions for the doctor : collect a brief history, complaints

Your task: perform a biopsy

Instructions for the patient : complain of bleeding from a non-healing ulcer in the mouth, pain in the area of the ulcer

Important: Carry out a differential . diagnosis of LP, stomatitis and cancer of the oral mucosa

Explanation:

Determine the need for a biopsy

Determine biopsy method

Describe the result of the morphological study

Give a conclusion

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Business game No. 8

In the oncology office, a 23-year-old woman complains of general weakness and the presence of generalized lymphadenopathy in all groups of lymph nodes.

Instructions for simulating a doctor : collect a brief history and complaints

Your task: to choose the optimal examination method in this case

Instructions for the patient : complain about general weakness and enlarged lymph nodes

Explanation:

Determine the need for a biopsy

Determine biopsy method

Describe the result of the morphological study

Give a conclusion

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Standards of test tasks

in the discipline _____ Oncology, radiation therapy _____

main professional educational program of higher education - specialty program in specialty
05/31/01 General Medicine, approved 05/24/2023.

For _____ 6th year students _____
(students/residents/postgraduates/listeners – select the required (course/year of study))

specialty 05/31/01 General Medicine
(code/name)

Vladikavkaz, 2023

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*The name of the controlled section (topic) or topics (sections) of the discipline/module and the code of the competence being formed is taken from the work program of the discipline.

1. The most characteristic radiological sign of Ewing's sarcoma is:

- A) Codman's visor ;
- B) Bloating of the bone, cellular structure, absence of periosteal layers;
- B) "Bulbous" periostitis;
- D) Bone spicules , a bone defect with corroded edges;
- D) Correct, a and d;

2.The prevalence of T2a stomach cancer corresponds to:

- A. tumor infiltration of the muscularis propria ;;
- B. tumor infiltration of the subserous layer.;

3. Hepatocellular cancer accounts for:

- A) 30–40% of primary liver tumors;;
- B)50–60% of primary liver tumors;;
- B)80–90% of primary liver tumors.;

4. The biological activity of neurogenic neoplasms is assessed using:

- A) Determination of AFP level;
- B) Studies of urine catecholamine excretion;

5. In terms of the frequency of lesions with tongue cancer, the first place is:

- A) Root ;
- B)Back ;
- B) Lateral surface;
- D) Tip;

6.Which of the following symptoms is not found in liver cancer?

- A) Fever ;
- B) Yellowness of the skin;
- B) Symptoms of portal hypertension;
- D) Hepatomegaly ;
- D) Courvoisier's symptom;

7. Currently, for T1N0M0 malignancy of internal organs, the following is used:

- A) Total or subtotal removal of an organ;
- B) Non-surgical treatment methods;
- B) Economical resections;

8. Prostate cancer in Russia ranks among the most common cancers in men:

- A) First place;
- B) Seventh place;
- B) Fourth place;

9.Rare forms of acute leukemia include:

- A) Promyelocytic ;
- B) Non-differentiable ;
- B) Plasmablastic leukemia;

10. When biological objects are exposed to radiation:

- A) Ionization of molecules;
- B) Dissociation of water molecules;
- C) Direct damaging effect on intermolecular bonds;

Ewing's tumor are most often found at the age of:

- A) From 10 to 20 years;
- B) From 20 to 30 years;
- B) From 30 to 40 years;
- D) From 40 to 50 years;

12.The risk factor for liver cancer in developed countries is:

- A) Ionizing radiation;
- B) Smoking ;
- B) Alcohol abuse;
- D) Abuse of fatty foods;

13. Most often, prostate cancer with transrectal ultrasound looks like:

- A) Hyperechoic focal zones;
- B) Zones of variable echogenicity ;
- B) Hypoechoic focal zones;

14. To diagnose relapse of papillary and follicular cancer, use:

- A) Monitoring the increase in thyroglobulin levels ;
- B) Ultrasound of the neck;
- B) Scanning with ¹³¹I in case of increased thyroglobulin levels ;

15. Squamous cell skin cancer develops rarely:

- A) At a young age;
- B) In middle age;
- B) In old age;

16. Thyroid cancer among cancer patients is one of the main ones in the following age range:

- A) 20–29 years old;
- B) 30–39 years;
- B) 50–59 years old;

17. The most informative method for diagnosing soft tissue sarcomas is:

- A) ultrasound ;
- B) X-ray ;
- B) Computed tomography;
- D) Magnetic resonance imaging;
- D) Angiography ;
- E) All of the above;

18. The success of the anti-cancer fight depends on:

- A) From health propaganda;
- B) From the work of the clinic;
- C) From the work of oncology hospitals;
- D) From all of the above;

19. The main method of treating differentiated forms of cancer is:

- A) Combination treatment;
- B) Operation ;
- B) Chemotherapy;

20. The occurrence of pancreatic cancer is promoted by:

- A) Alcohol abuse;
- B) Smoking ;
- C) Increased fat consumption;
- D) All of the above;

21. Characteristic early symptoms of soft tissue malignancy:

- A) Pain ;
- B) Impaired limb function;
- B) Rapid tumor growth;
- D) Changes in the skin over the tumor;
- D) All of the above;

22. Excision of soft tissue sarcomas en bloc includes:

- A) Scar after biopsy and tissue during its implementation;
- B) All muscles and structures involved;
- B) Within the underlying fascia;
- D) With the underlying fascia;
- D) Correct a, b, d;

23. Acute lymphoblastic leukemia is more often observed:

- A) In children under 15 years of age;
- B) In adults;
- B) In old age;

24. The leading method of differential diagnosis of esophageal cancer is:

- A) X-ray contrast study;

- B) Computed tomography;
- B) Morphological study;

25. For chemotherapy of lymphogranulomatosis, the most effective protocols are:

- A) 7+3 or 5+2;
- B) MOPP/ABVD or COPP/ABVD;

26. First of all, cancer metastasizes :

- A) In the peribronchial lymph nodes;
- B) In the supraclavicular lymph nodes;
- B) In the paraesophageal lymph nodes;

27. For microinvasive and non-invasive cancer - carcinoma in situ - 5-year survival rate is:

- A) 90%;
- B) 75%;
- B) 50%;

28. Esophageal cancer progresses in most cases:

- A) Slowly ;
- B) Fast;

29. Long-term use of L-thyroxine can cause - mark the incorrect answer:

- A) Atrial fibrillation;
- B) Liver tumors;
- C) Accelerated reorganization of bone tissue;

30. Surgical treatment is justified only if the cancer spreads within:

- A) Tis -T1;
- B) T 1-T2;
- B) T2-T3;

31. Breast cancer ranks:

- A) First place among all cancer diseases in women;
- B) Second place among all cancers in women after cervical cancer;
- C) Second place among all cancers in women after ovarian cancer;

32. When the thickness of skin melanoma according to Breslow is 1–2 mm, the optimal resection limit is a distance from the edge of the tumor by:

- A) 0.5 cm;
- B) 1 cm;
- B) 2 cm;
- D) 3 cm;

33. An increase in the time of influence of the stomach contents on the esophagus leads - most correctly:

- A) To chemical irritation of the mucous membrane of the esophagus;
- B) To the mutagenic effect of hydrochloric acid;
- C) To increase the duration of exposure to carcinogens on the wall of the esophagus;

34. Cholangiocarcinoma develops from:

- A. hepatocytes ;
- B. epithelial cells of the bile ducts;

35. In the absence of a primary tumor in the mammary gland and enlargement of the axillary lymph nodes, the following is indicated:

- A) Surgical biopsy of axillary lymph nodes for histological and histochemical examination;
- B) Regional radiation therapy without detailed examination;

36. The term “mortality” means:

- A) Statistical indicator (%) reflecting the ratio of the number of deaths from any tumor to the number of patients with this nosological form;
- B) An indicator of population decline from a certain group of causes or from certain nosological forms;

37. For early lip cancer of small sizes, it is effective to:

- A) Cryogenic impact;
- B) Contact chemotherapy;

- C) Close-focus radiotherapy;
- D) Photodynamic therapy;
- D) Correct a, b, c;
- E) Correct a, c, d;

38. Patients who failed to achieve remission after:

- A) 1 course of chemotherapy;
- B) 2 courses of chemotherapy;
- B) 4 courses of chemotherapy;

39. The tumor most sensitive to drug and radiation therapy is:

- A) Osteogenic sarcoma;
- B) Tumor Ewing ;
- B) Chondrosarcoma ;
- D) Lymphoma (reticulosarcoma);
- D) b and d are correct;

40. The most characteristic radiological sign of Ewing's sarcoma is:

- A) Visor Codman ;
- B) Bloating of the bone, cellular structure, absence of periosteal layers;
- B) "bulbous" periostitis;
- D) bone spicules , a bone defect with corroded edges;
- D) Correct, a and d;

41. Differential diagnosis of thyroid cancer is carried out - indicate the 3 most correct answers:

- A) With a tumor of the larynx;
- B) With adenoma;
- B) With autoimmune thyroiditis ;
- D) With goiter;
- D) With a tumor of the mediastinum;

42. Colorectal cancer in developed countries:

- A) The first most common malignancy;
- B) The second most common malignancy;
- C) Third most common malignancy;

43. Measures to prevent pancreatic cancer - check 2 correct answers:

- A) Refusal of alcohol abuse;
- B) Quitting smoking;
- C) Limiting the amount of fat in the diet;
- D) Including a large amount of vegetables and fruits in the diet;
- D) All of the above;

44. Macrohematuria with nephroblastoma is observed in:

- A) 70% of patients;
- B) 25% of patients;
- B) 40% of patients;

45. At a young age they note mainly:

- A) Poorly differentiated cancer;
- B) Well-differentiated cancer;

46. Esophageal cancer occurs more often:

- A) In men;
- B) In women;
- B) Not related to gender;

47. Lesions of the tail of the pancreas include tumors that arise in the area:

- A) Bounded by the left edge of the aorta and the hilum of the spleen;
- B) Located to the right of the left edge of the superior mesenteric vein;
- B) Bounded by the left edge of the superior mesenteric vein and the left edge of the aorta;

48. The risk factor for liver cancer in developed countries is:

- A) Ionizing radiation;

- B) Smoking ;
- B) Alcohol abuse;
- D) Abuse of fatty foods;

49. In 2005, stages I-II of thyroid cancer were detected approximately:

- A) In 50% of patients with this tumor;
- B) In 25% of patients;
- B) In 75% of patients;

50. Predisposing factors for the development of skeletal tumors are - tick the 3 correct answers:

- A) Dysembryonic disorders;
- B) Physical overload in childhood;
- C) Effect of radiation factors;
- D) Action of chemical factors;

51. CANCER OF THE LIPS IS COMMONLY ENCOUNTERED – SELECT THE TWO CORRECT ANSWERS

- a) among rural residents
- b) among city residents
- c) in the southern regions
- d) in the northern regions

52. X-RAY IRRADIATION OF THE HEAD AND NECK WITH THERAPEUTIC DOSES

- a) increases the incidence of thyroid cancer by 2–5 times
- b) increases the incidence of thyroid cancer by 5–10 times
- c) reduces the incidence of thyroid cancer by 5–10 times

53. THERE ARE THE FOLLOWING HISTOLOGICAL VARIANTS OF THYROID CANCER - CHECK THE CORRECT ANSWER

- a) skirr
- b) papillary cancer
- c) follicular cancer
- d) medullary cancer
- e) undifferentiated cancer

54. THE DIAGNOSIS OF ACUTE LEUKEMIA IS CONFIRMED BY THE DETECTION OF MORE THAN ... BLAST CELLS IN THE RED BONE MARROW

- a) 20%
- b) 30%
- c) 50%

55. OCCENT BREAST CANCER IS

- a) the presence of distant metastases without a clinically detectable tumor in the gland itself
- b) an increase in axillary lymph nodes affected by metastases without a clinically detectable tumor in the gland itself

56. IN MODERN ONCOLOGICAL CENTERS, THE 5-YEAR SURVIVAL RATE FOR STAGE 1 CANCER IS

- a) 96%
- b) 50%
- c) 80%

57. IN 2005, LIP CANCER PATIENTS DETECTED IN RUSSIA

- a) more compared to 1995
- b) less compared to 1995.
- c) the same amount

58. AGAINST THE BACKGROUND OF DUBREY'S MELANOSIS ARISES ALMOST ALWAYS

- a) basal cell carcinoma
- b) squamous cell carcinoma
- c) skin melanoma
- d) sarcoma

59. EWING'S SARCOMA MOST COMMONLY AFFECTS

- a) femur
- b) diaphysis of tubular bones
- c) small bones
- d) flat bones
- e) bones of the knee joint

60. THE STANDARD VOLUME OF INTERVENTION ON THE LYMPHATIC SYSTEM FOR STOMACH CANCER IS

- a) removal of LUs of the second and third levels
- b) removal of LUs of the third and fourth levels
- c) removal of LUs of the first and second levels

61. ADENOCARCINOMA IS OF ALL MALIGNANT NEOPLASMS OF THE PROSTATE GLAND

- a) 23%
- b) 98%
- c) 56%

62. MALIGNANT GERMINOGENIC TUMORS ARE INCLUDED

- a) teratoma
- b) teratoblastoma
- c) hepatocellular cancer

63. COLOR OF URINE IN JAUNDICE DUE TO PANCREAS CANCER

- a) light yellow
- b) dark brown
- c) urine is discolored
- d) there is no pattern

64. ARE THERE AGE NORMALS FOR PSA CONCENTRATION?

- a) yes
- b) no

65. AN OPTIONAL PRECANCER IS CHARACTERIZED BY THE FACT THAT IT

- a) sooner or later degenerates into cancer
- b) transforms into a malignant neoplasm relatively rarely

66. IN CHILDREN'S ONCOLOGY STAGE OF MALIGNANT TUMOR

- a) determines the forecast
- b) does not determine the prognosis

67. CHEMOTHERAPY IS USED AS AN INDEPENDENT METHOD

- a) for palliative purposes
- b) as the main method of treatment for localized forms of cancer

68. WHICH OF THE LISTED SYMPTOMS IS NOT OCCURRED IN LIVER CANCER

- a) fever
- b) yellowness of the skin
- c) symptoms of portal hypertension
- d) hepatomegaly
- e) Courvoisier's sign

69. EXCISION OF SOFT TISSUE SARCOMAS EN BLOC INCLUDES

- a) scar after biopsy and tissues during its implementation
- b) all muscles and structures involved
- c) within the underlying fascia
- d) with underlying fascia
- e) a, b, d are correct

70. FOR CHONDROSARCOMA, THE FOLLOWING TREATMENT IS INDICATED

- A) radiation therapy + surgery
- b) chemotherapy + surgery
- c) operation
- d) chemoradiotherapy

71. RADICAL TREATMENT OF SOFT TISSUE SARCOMAS INCLUDES - MARK 3

CORRECT ANSWERS

- a) amputation
- b) radiation therapy
- c) organ-sparing resection
- d) excision of the tumor, retreating 3–5 cm from the edge of the tumor
- e) excision within the fascial sheath
- e) all of the above

72. WHAT IS MORE IMPORTANT IN THE DIAGNOSIS OF BREAST DISEASES

- a) sensitivity of the method
- b) specificity of the method

73. MOST COMMON LOCALIZATION OF CHONDROSARCOMA

- a) epiphysis of tubular bones
- b) diaphysis of tubular bones
- c) metaepiphysis of tubular bones
- d) pelvic bones, shoulder girdle

74. RATIO OF MEN AND WOMEN IN ORAL CANCER

- a) 6:1
- c) 3:1
- c) 1:1

75. MOST CHARACTERISTIC FOR HAIRY CELL LEUKEMIA

- a) enlarged lymph nodes
- b) increase in the size of the spleen
- c) increase in liver size

76. LEUKEMIA ACCOUNTS

- a) 1.5% of all cancers
- b) 25% of all cancers
- c) 4.5% of all cancers

77. NOT APPLICABLE TO PARAPROTEINEMIC HEMOBLASTOSES

- a) multiple myeloma
- b) histiocytosis X
- c) macroglobulinemia Waldenström

78. USING BIOCHEMICAL TESTS FOR BILIRUBIN, TRANSAMINASES, LDH IN SUSPECTED CANCER OF THE BILIOPANCREATODUDODENAL AREA IT IS POSSIBLE

- a) conduct a topical diagnosis of the tumor
- b) conduct a differential diagnosis of jaundice
- c) only characterize the general condition of the patient
- d) conduct a topical diagnosis of the tumor and characterize the general condition of the patient

79. THE HIGHEST INCIDENCE RATE OF PRIMARY LIVER CANCER IS RECORDED IN THE CIS

- a) in Moscow
- b) in Krasnodar
- c) in the Sakha Republic
- d) in Tatarstan

80. MOST COMMON PRIMARY MALIGNANT NEOPLASIS IN THE WORLD

- a) rectal cancer
- b) lung cancer
- c) liver cancer
- d) stomach cancer

81. Typical morphological form of lip cancer - mark the correct order by frequency of occurrence:

- A) Squamous keratinizing cancer, non-keratinizing cancer, cancer with a tendency to keratinize;
- B) Non-keratinizing cancer, cancer with a tendency to keratinize, squamous cell keratinizing cancer;
- C) Squamous cell keratinizing cancer, cancer with a tendency to keratinize, non-keratinizing

cancer.

82. For infiltratively growing forms of lip cancer - T3-4 - the following are used:

- A) Radiation therapy and surgery;
- B) Chemoradiation therapy and surgery;
- B) Radiation or chemoradiotherapy and surgery;

83. The time interval between a latent microscopic tumor and the development of symptoms of prostate cancer with metastases reaches:

- A) 5 years;
- B) 10 years;
- B) 20 years;

84. Risk factors for developing prostate cancer do not include:

- A) Ethnicity ;
- B) Smoking ;
- C) Amount of fat consumed;
- D) Occupational hazards;
- D) Sexual behavior.

8 5. When treating MN, the possibility of:

- A) Radiation therapy;
- B) Chemotherapy ;
- B) Radical surgical treatment;

8 6. Currently, one of the most effective methods of treating patients with acute leukemia is considered:

- A) Chemotherapy ;
- B) Bone marrow transplantation;
- B) Combination therapy;

8 7. Mortality during lung operations does not exceed:

- A)3%;
- B)15%;
- B)30%;

8 8. The clinical minimum screening for pancreatic cancer in the presence of jaundice includes - tick the 3 correct answers:

- A) X-ray of the stomach;
- B) Irrigography ;
- B) Ultrasound of the abdominal cavity;
- D) Computed tomography of the abdominal cavity;
- D) Examination of urine and feces for bile pigments;

8 9. Measures to prevent hepatocellular liver cancer are - tick the 2 correct answers:

- A) Vaccination against hepatitis B virus;
- B) Treatment of opisthorchiasis;
- C) Fight against alcoholism;
- D) Elimination of bacterial infection in the intrahepatic bile ducts;

9 0. For unresectable stage IV Ewing sarcoma , the following is indicated:

- A) Bone marrow transplantation;
- B) Carrying out high-dose chemotherapy with bone marrow transplantation;
- C) Carrying out only chemotherapy;

91. On the head and neck, the long axis of the skin incision during excisional biopsy is placed:

- A) Across the direction of projection of lymphatic drainage vessels of a given anatomical region;
- B) In the direction of projection of lymphatic drainage vessels of a given anatomical region;
- C) Should be placed in natural folds and reduce skin tension to a minimum for optimal scar formation;

92. The immunohistochemical method is used to determine:

- A) The degree of malignancy of the tumor;
- B) Indications for a particular treatment method;

C) Additional biological prognostic factors;

93. In adolescence and adolescence it occurs mainly:

- A) Sarcoma Ewing ;
- B) Osteogenic sarcoma;
- B) Lymphoma ;
- D) Chondrosarcoma ;
- D) Correct, a and b;

94. With osteogenic sarcoma, the prognosis is unfavorable if:

- A) The pelvic bones and vertebrae are affected;
- B) The long tubular bone is affected;
- C) The lungs are affected by metastases;
- D) Lymph nodes are affected by metastases;
- D) Other bones are affected by metastases;

95. Regional metastases in lip cancer (LC) reveal:

- A) In 60% of patients;
- B) In 36% of patients;
- B) In 16% of patients;

96. Five-year survival rate for repeated remissions of acute leukemia during chemotherapy is:

- A)5%;
- B)10%;
- C) Exceeds 15%;

97. Cytological examination can give a false negative result in the case of:

- A) Melanomas ;
- B) Well-differentiated squamous cell carcinoma;
- B) Battles;

98. The term “metaplasia” means:

- A) Violation of the shape, structuring and organization of cell layers;
- B) Differentiation , loss of the ability of cells to form normal tissue structures and their loss of specialized function;
- C) Replacement of normal cells with elements of another differentiation;
- D) An increase in the number and/or size of cells without qualitative changes;

99. Chest pain with central cancer appears:

- A) In 30% of patients;
- B) In 90% of patients;
- B) In 60% of patients;

100. Measures to prevent pancreatic cancer:

- A) Refusal of alcohol abuse;
- B) Quitting smoking;
- C) Limiting the amount of fat in the diet;
- D) Including a large amount of vegetables and fruits in the diet;
- D) All of the above;

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Department of Radiation Diagnostics with Radiation Therapy and Oncology
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Discipline Oncology, radiation therapy

Ticket to test No. 1

1. In what year were X-rays discovered, what they are , their properties.

2. Cancer and precancerous skin diseases. Cancer of the oral mucosa. Tumors of bones and soft tissues.

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Ticket to test No. 2

1. Layer-by-layer (tomographic) examination of the chest organs
- 2 Precancerous diseases and cancer mammary gland.

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Faculty/ Specialty General Medicine Course

/Year 6

Discipline Oncology, radiation therapy

Ticket to test No. 3

- 1 Methods of radiation therapy.
2. Tumors of bones and soft tissues.

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Ticket to test No. 4

1. Basics of radiation therapy for malignant tumors of the maxillofacial region.
2. Precancerous diseases and lung cancer.

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Discipline Oncology, radiation therapy

Ticket to test No. 5

1. Radiotherapy planning.
2. Esophageal cancer, stomach cancer.

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/Year 6

Discipline Oncology, radiation therapy

Ticket to test No. 6

1. basic methods of radiation therapy.
2. Malignant lymphomas . Multiple myeloma.

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Discipline Oncology, radiation therapy

Ticket to test No. 7

1. Tumors of the hepatopancreatoduodenal zone.
- 2 Physical foundations of radiation therapy. Radiobiological principles of radiation therapy for malignant and non-tumor diseases.

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of the Russian Federation**

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Discipline Oncology, radiation therapy

Ticket to test No. 8

1. The body's reactions to therapeutic radiation exposure. Post-radiation period. Radiation protection of organs and tissues during radiation therapy
2. Colon and rectal cancer.

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of the Russian Federation**

Department of Radiation Diagnostics with Radiation Therapy and Oncology

Faculty/ Specialty General Medicine Course

/Year 6

Discipline Oncology, radiation therapy

Ticket to test No. 9

1. Technical support for radiotherapy
2. Types and methods of intracavitary therapy, indications for it

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of the Russian Federation**

Department of Radiation Diagnostics with Radiation Therapy and Oncology

Faculty/ Specialty General Medicine Course

/Year 6

Discipline Oncology, radiation therapy

Ticket to test No. 10

1. Remote method of radiation therapy
2. Malignant lung tumors.