TOPICS FOR PRACTICAL LESSONS, DISCIPLINE RADIOLOGY FOR STOMATOLOGISTS
For the IIIrd year students Faculty of Stomatology, university year 2018-2019

   1. Medical imaging. Definition.
   2. Component parts of medical imaging.
   3. Ionizing radiation and its action on living organisms.
   4. Dosimetry.
   5. Units of measurement for radiation. International system of units.
   7. Radiological protection of the patient.
   8. Radiological protection of personnel involved with ionizing radiation.

II. Radiological methods of investigation.
   4. X-ray properties.
   5. Properties of a radiographic image.
   7. Forming of radiographic image.
   8. The laws of radiographic imaging.
   10. Special radiologic methods.
   12. Adverse reactions on contrast agents.

III. Imaging methods of investigation: computed tomography, magnetic resonance imaging, ultrasonography, nuclear medicine.
   2. Cone-beam computed tomography.
   4. Indications and contraindications for IRM examination.
   6. Modes of ultrasound examination.
   8. General ultrasonographic semiology.
   11. Notion of Radionuclide and Radiopharmaceutical media (preparation), half-lives.
   12. Requirements for radionuclide and radiopharmaceutical preparation.
   13. The principle of obtaining and recording information in radionuclide diagnosis.
   14. SPECT (Single Photon Emission Computed Tomography) and PET (Positron Emission Tomography). Basic principles.
IV. **Radiodiagnosis of locomotion apparatus pathology.**
1. Imaging methods of examination of locomotion apparatus.
2. Fractures. Types of fractures according to the mechanism of production: mechanical fractures, stress fractures, direct fractures, indirect fractures, gunshot fractures, pathological fractures.
3. Types of fractures according to the number: single, multiple, comminuted, simultaneous.
5. Evolution of fractures.
7. Imaging semiology of dislocations (luxations) and subluxations.
8. Imaging seismology of changes in bone shape and dimensions (bone atrophy, bloody bone, bone deformities, bone hypertrophy).
9. Imaging semiology of structural changes (osteoporosis, osteosclerosis, osteodistruiction, osteonecrosis, osteolysis).
11. Modifications of soft tissues (volume, structure).
12. Radiological semiology of modifications of joints.

V. **Imaging methods of examination in stomatology.**
1. Radiological methods of examination in stomatology. Classification.
2. Intra-oral methods. Classification.
3. Contact radiography: by Dieck (retroalveolar), by Raper (interproximal). General execution technique according to the examined teeth. Indications.
5. Extra-oral methods.
7. Radiography of jaws (maxilla, mandible).
8. Contrast enhanced radiography (sialography, fistulography, that of maxillary sinus, carotid arteriography).

VI. **Normal radiological anatomy of teeth, maxillofacial area and temporo-mandibular joint.**
1. Radiological anatomy of jaws. Regional and individual characteristics.
2. Normal relations between teeth and other anatomical structures: radiological signs.
3. Radiological image of a permanent tooth.
4. Radiological anatomy of different groups of teeth.
5. Radiological image of a milk tooth.
6. Another anatomical structures: cavum nasi, sutura internaxilaris, foramen incisivum, sinus maxilaris, os zygomaticum, tuber maxillae, processus coronoides, processus condylaris, protuberantia mentalis, foramen mentale, canalis mandibularis, linea obliqua externa, linea mylohyoidea, articulatio temporo-mandibularis.
7. Radiological anatomy of the temporal-mandibular joint.
8. Radiological anatomy of salivary glands.
VII. Age particularities. Developmental anomalies of maxillofacial area.
1. Notion of dental embryology.
3. Particularities in elderly.
4. Abrasion, attrition, erosion, dental resorption.
5. Anomalies of number.

VIII. Radio-imaging diagnosis of cranial and maxillofacial area trauma.
1. Classification of fractures of facial massif.
2. Fractures of maxilla: involving and not involving the teeth.
3. Classification of fractures by Le Fort: I, II, III.
5. Fractures of teeth.

IX. Radio-imaging diagnosis of caries.
1. Radiological methods of examination.
2. Radiological evolution of caries.
3. Clinical and radiological classifications of caries.

X. Radio-imaging diagnosis of complications of caries.
4. Acute apical parodontitis.
5. Chronic apical parodontitis. Clinical variants and radiographic signs.

XI. Teleradiography of the maxillofacial area. Imaging methods for diagnosis of maxillofacial area and temporo-mandibular joint pathology.
2. Technique of teleradiography. Lateral teleradiography.
5. Radiological anatomy of temporo-mandibular joint.
6. Radiodiagnosis of temporo-mandibular joint arthritis.
8. Radiodiagnosis of contractures of temporal-mandibular joint.

XII. Radiodiagnosis in implantology and parodontology. Radiodiagnosis in stomatological treatment.
1. Radiological aspects of implantology.
2. Incidences - quantity of available bone, frontal zone, lateral zone; mandible, frontal zone, quality of available bone (density), anatomical elements, radiologic toolings, another available imaging methods.
3. Radiographic errors, sources of errors.
5. Incrustations (radioopaque and radiolucent materials).
7. Bridges (radio-opaque and radiolucent materials).
8. Prosthesis (radiological aspects).
12. Apical resection.
13. Amputation of tooth root.
14. Dental extraction (normal alveola, complications).
15. Dental transplantation.

XIII. Radiodiagnosis of inflammatory diseases of the maxillofacial area. Radiodiagnosis of osteomyelitis.
1. Methods of examination.
2. Focal diseases and radiographic examination of teeth: pulpar focars, marginal focars.
3. Infection of maxillary bones: osteoperiostitis, alveolar osteitis, osteomyelitis.
5. Radiological classification of osteomyelitis.
6. Odontogenic osteomyelitis.
7. Complications of osteomyelitis.

XIV. Radiodiagnosis of diseases of paranasal sinuses.
1. Imaging methods of examination for paranasal sinuses.
2. Radiological anatomy of paranasal sinuses.
4. Maxillary sinusitis and dental radiographic examination - odontogenous maxillar sinusits (acute, chronic), oro-sinusal communication, contrast investigations; root in maxillar sinus.
6. Tumors.

XV. Radiodiagnosis of cysts of the maxillofacial area.
1. Imaging methods of examination.
2. Classification of the cysts of maxillofacial area.
3. Odontogenous cysts (primordial, folicular, periodontal lateral).
4. Inflammatory cysts - radicular, rezidual, periodontal lateral cyst.
5. Disembiopathic cysts.
7. Pseudocysts.

XVI. Radiodiagnosis of tumors of the maxillofacial area.
1. Radiological classification of tumors of maxillofacial area.
3. Odontogenous benign tumors.
4. Odontome.
5. Cementome.
6. Ameloblastome.
8. Pseudotumors.

XVII. Radio-imaging diagnosis of salivary gland pathology.
1. Imaging methods of examination.
2. Pathology of salivary glands.
3. Lithiasis. Radiological signs.
4. Tumors of salivary glands.
5. Benin tumors.
7. Chronic sialadenitis.
8. Limphoepitelial diseases.

Șef catedră       Natalia Rotaru