MINISTRY OF HEALTH OF THE REPUBLIC OF MOLDOVA
STATE UNIVERSITY OF MEDICINE AND PHARMACY
„NICOLAE TESTEMITANU”

FACULTY OF DENTISTRY
Department of oromaxillofacial surgery
and oral implantology „Arsenie Gutan”

Sofia LEHTMAN

ORAL AND MAXILLOFACIAL INFLAMMATORY PROCESSES

Methodical recommendation for third year students,
Faculty of Dentistry

CHISINAU, 2022

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CONTENT

INTRODUCTION

Inflammation in the oromaxillofacial region and their treatment is always a current issue, although their incidence is increasing.

Patients with weak immune system, affected microbiota and antibiotic resistance, have significantly increased the potential for inflamematory complications in the oral and maxillofacial region. Likewise, soft tissue infections are more common than bone infections; this phenomenon is explained by the fact that the anatomical structures are more exposed to traumatic and bacterial aggressions, while the soft tissues protect the bony elements of the facial region.

Studies describe the morbidity and mortality caused by infections of the oral and maxillofacial region, undetected or untreated. Therefore, in-depth study of the etiology, pathogenesis and evolution of these infections is necessary for common dental practice.

The methodical recommendation is addressed to the third year students of the Faculty of Dentistry, in order to improve the approach and understanding of this subject.

TOPIC 1: MORPHOPATHOLOGY AND PATHOPHYSIOLOGY OF INFLAMMATION

The aim of study: Studying the types, mechanisms, phases of inflammation and the evolution of inflammatory processes.

Class distribution: The topic is studied in 7 academic hours: 2 hours for the theoretical course, 5 hours for the practical part. ***Ambulatory.***

Objectives:

1. Studying oral microbiology.
2. Studying the types of inflammation.
3. Assessing the evolution of inflammation.
4. Studying the classification of inflammatory processes.

At the end of the practical lesson / seminar the student will be able to:

The practical part sums up the theoretical knowledge of the topic: clinical and paraclinical examination of the patient, description of the general principles of treatment, conservative and surgical treatment in case of maxillofacial infections.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the practical lessons: frontal and individual activity, brainstorming sessions, group discussions, case simulation situations, case study. The students will use specialized textbooks, methodical recommendations edited by the department members, charts, schemes, PowerPoint presentations, national and international professional sites.

Self-assessment questions:

1. Definition of „inflammation" term.
2. Pathways of infection spreading.
3. The role of interfascial spaces in the spread of infection.

4. Pathophysiology of inflammation (triggering mechanisms, inflammatory exudate).
5. Frequency, etiology and pathogenesis of inflammatory diseases.
6. Classification of inflammatory diseases.
7. Clinical evolution and diagnostic principles of inflammatory diseases.

TOPIC 2: PERIAPICAL INFLAMMATORY DISEASES

The aim of the study: To learn the particularities of the clinical evolution and treatment methods of patients with periapical inflammatory diseases.

Duration and type of activity: The subject is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of practical lessons. ***Ambulatory.***

Objectives:

1. Assessment of the importance of paraclinical examination in determining periapical inflammatory conditions.
2. Examination of patients with these pathologies. Establishing the diagnosis and treatment plan.

At the end of the practical lesson / seminar the student will be able to:

The practical works complements the theoretical understanding of the topic with the practical application through: clinical and paraclinical (radiological) examination of the patient, description of the standard operating protocol in endodontic surgery, management of wisdom teeth inflammatory pathologies.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the seminars: frontal, individual activity, brainstorming sessions, group discussions, case simulation situations, case study. As didactic support the students use: specialised textbooks available in the university library, methodical recommendations elaborated by department members, charts, schemes, PowerPoint presentations, national and international professional sites.

Self-assessment questions:

1. Diagnosis of periapical lesions.
2. Etiology and pathogenesis of periapical lesions.

3. Classification of periapical lesions.
4. Diagnosis and differentiated diagnosis of acute and chronic periodontitis.
5. Standard operating protocol in endodontic surgery.
6. Main procedures of endodontic surgery:
    - Periapical curettage;
    - Apical resection;
    - Root amputation;
    - Tooth replantation;
7. Issues caused by wisdom tooth eruption.
8. Etiology and pathogenesis of pericoronitis.
9. Microbiology of pericoronitis.
10. Conservative and surgical treatment of pericoronitis.

TOPIC 3: INFLAMMATION OF THE PERIMAXILLARY SOFT TISSUES

The aim of the study: Study of peculiarities of the clinical evolution and treatment methods of patients with perimaxillary soft tissue inflamemations.

Duration and type of activity: The subject is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Ambulatory.***

Objectives:

1. Highlighting the pathogenic mechanisms of infection spread.
2. Highlighting the specific signs and symptoms of perimaxillary soft tissue inflammations.
3. Establishing the diagnosis and treatment plan based on clinical and paraclinical data.

At the end of the practical lesson / seminar the student will be able to:

Students will learn the characteristics of nonspecific infections of the soft perimaxillary tissues- etiology and pathogenesis, modes of infection transmission, as well as the peculiarities of clinical and paraclinical examination of patients with various forms of abscesses and their conservative and surgical treatment.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the practical lessons: frontal, individual activity, brainstorming sessions, group discussions, case simulation situations, case study. Didactic support: specialised textbooks available in the university library, methodical recommendations written by department members, charts, schemes, PowerPoint presentations, national and international professional sites.

Self-assessment questions:

1. Etiology and pathogenesis of perimaxillary suppurations. Definition of an „abscess" and „phlegmon".
2. Microbiology of odontogenic infections.
3. The role of the interfascial and intermuscular spaces of the head and neck in the infection spreading in oromaxillofacial soft tissues. Modes of infection transmission.
4. Classification of fascial and muscular spaces of the face and of the neck: (superficial, deep, by regions).
5. Basic principles of distribution of fascial and muscular spaces, causes of inflammatory processes localisation (by regions, by layers, through neurovascular bundles, the presence of blood vessels and lymph nodes).
6. Local clinical signs of infection (Celsian signs): erythema, heat or local warmth, pain, swelling and altered function.
7. General clinical signs: fever, headache, fatiguability, weakness, loss of appetite, insomnia, changes in blood test values.
8. General principles of diagnosis, treatment (local and general) of inflammatory processes in the OMF region.
9. Clinical aspects and principles of surgical treatment for particular abscesses:
   - vestibular
   - palatal
   - perimandibular
   - periodontal
   - migratory

TOPIC 4: ABSCESSES OF SUPERFICIAL HEAD AND NECK SPACES

The aim of the study: To learn the particularities of the clinical evolution and treatment methods in patients with abscesses of superficial spaces in the oromaxillofacial region.

Duration and type of activity: The topic is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Stationary.***

Objectives:

1. Highlighting various signs and symptoms characteristic for perimaxillary soft tissue infections.
2. Establishing the diagnosis and treatment plan based on clinical and paraclinical data.

At the end of the practical lesson / seminar the student will be able to:

During the seminar, students will learn the characteristics of non-specific infections of the perimaxillary areas (etiology and pathogenesis, modes of transmission of infection), as well as the specificity of clinical and paraclinical examination of different forms of superficial spaces abscesses and their conservative and surgical treatment.

During practical lessons, students will perform patient examination, local anesthesia and drain an abscess by an intraoral incision.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the seminars: frontal, individual activity, brainstorming sessions, group discussions, case simulation situations, case study. As didactic support are used the specialised textbooks available in the university library, the methodical recommendations of the department collaborators, charts, schemes, PowerPoint presentations, national and international professional sites.

Evaluation of individual work:

During the seminar, students (in groups of 2-3 or individually) will present projects based on current topics. All presentations will have the same evaluation criteria: the ability to extract the essential, interpretive skills, the ability to analyse and communicate the information assessed individually. The project will be appreciated by the teacher, whom will apreciate the clinical thinking skills of the student.

Self-assessment questions:

1. Submandibular abscess. Etiology, pathogenesis, topographic anatomy, clinical picture, differential diagnosis and treatment.
2. Submental abscess. Etiology, pathogenesis, topographic anatomy, clinical picture, differential diagnosis, treatment.
3. Sublingual abscess. Etiology, pathogenesis, topographic anatomy, clinical picture, differential diagnosis, treatment.
4. Lingual abscess. Etiology, pathogenesis, topographic anatomy, clinical picture, differential diagnosis, treatment.
5. Jugal abscess. Etiology, pathogenesis, topographic anatomy, clinical picture, differential diagnosis, treatment.

TOPIC 5: ABSCESSES OF SUPERFICIAL HEAD AND NECK SPACES

The aim of the study: To learn the particularities of the clinical evolution and treatment methods of patients with abscesses of the superficial spaces.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Stationary.***

Objectives:

1. Highlighting various signs and symptoms characteristic for permaxillary soft tissue infections.
2. Establishing the diagnosis and treatment plan based on clinical and paraclinical data.

At the end of the practical lesson / seminar the student will be able to:

During the seminar, students will learn the characteristics of nonspecific infections of the perimaxillary areas (their etiology, pathogenesis, modes of transmission infection), as well as the specificity of clinical and paraclinical examination of different forms of superficial spaces abscesses and their conservative and surgical treatment.

During practical lessons, students will perform patient examination, local anesthesia and drain an abscess by an exo-oral incision.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the seminars: frontal, individual activity, brainstorming sessions, group discussions, case simulation situations, case study. As didactic support are used the specialised textbooks available in the university library, the methodical recommendations of the department collaborators, charts, schemes, PowerPoint presentations, national and international professional sites.

Evaluation of individual work:

During the seminar, students (in groups of 2-3 or individually) will present projects based on current topics. All presentations will have the same evaluation criteria: the ability to extract the essential, interpretive skills, the ability to analyse and communicate the information assessed individually. The project will be appreciated by the teacher, whom will apreciate the clinical thinking skills of the student.

Self-assessment questions:

1. Masseter abscess. Etiology, pathogenesis, topographic anatomy, clinical picture, differential diagnosis and treatment.
2. Parotid abscess. Etiology, pathogenesis, topographic anatomy, clinical picture, differential diagnosis, treatment.
3. Temporal abscess. Etiology, pathogenesis, topographic anatomy, clinical picture, differential diagnosis, treatment.
4. Orbital abscess. Etiology, pathogenesis, topographic anatomy, clinical picture, differential diagnosis, treatment.

TOPIC 6: ABSCESSES OF HEAD AND NECK DEEP SPACES

The aim of the study: Evaluation of semiological features in deep space suppurations and their surgical treatment options.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Stationary.***

Objectives:

1. Assessment of the importance of deep spaces in terms of their communication with the superficial spaces, the cranial base and the large vessels of the neck.
2. Analysis of clinical manifestations of abscesses of these spaces.
3. Description of treatment methods in case of deep spaces abscesses.

At the end of the practical lesson / seminar the student will be able to:

In this seminar, students will learn: the topographic anatomy of the infratemporal and lateropharyngeal spaces, the etiology and pathogenesis of these abscesses, the clinical signs and conservative and surgical treatment.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the seminars: frontal, individual activity, brainstorming sessions, group discussions, case simulation situations, case study. The specialised textbooks available in the university library, schemes, PowerPoint presentations, national and international professional sites are used as teaching support.

Problem Based Learning:

The teacher presents an open problem, usually in the form of a specially formulated case study, so as not to produce a single solution and

coordinates groups of 5-7 students working together. Students play different roles; there is a president, responsible for summary, a person who keeps track of time and the rest will discuss the problem.

Students discuss and clarify the presented facts, define the problem and brainstorm based on the gained knowledge, identify what they do not know and what they need to study to solve the problem and establish an action plan. Students are engaged in an individual study process that may include: books, databases, web resources, etc. For several days, the student has the task to read, synthesise and critically judge the validity and usefulness of the information. During the next seminar, they share the information they found and work together to solve the problem, so that they can finally present the solution to the problem. Everyone who participated reviewed what they had learned by solving this problem and reflected on the personal contribution of his colleagues.

Evaluation of individual work:

During the seminar, the groups of students will present the results obtained after solving the requirements of the clinical case and will compare them with those presented by the teacher. The answers will have the same evaluation criteria. The teacher will evaluate the clinical thinking of the students participating in the debates.

Self-assessment questions:

1. Description of the anatomical limits of the infratemporal space.
2. Specifying the etiology and pathogenesis of the infratemporal space abscess.
3. Description of the clinical signs (local and general) of the abscess of the infratemporal space.
4. Establishing the diagnosis and differential diagnosis.
5. Complex treatment in the abscess of the infratemporal space.
6. Description of the anatomical limits of the lateral pharyngeal space.
7. Specification of the etiology and pathogenesis of the abscess of the lateral pharyngeal space.

8. Description of the clinical signs (local and general) of the lateral pharyngeal abscess.
9. Establishing the diagnosis and differential diagnosis in the abscess of the lateral pharyngeal space.
10. Complex treatment in the abscess of the lateral pharyngeal space.
11. Evolution and complications of deep facial abscesses.

TOPIC 7: DIFFUSE OROMAXILLOFACIAL SUPPURATIONS

The aim of the study: Analysis of the peculiarities of diagnosis and treatment of phlegmon.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Stationary.***

Objectives of the practical lessons and seminars:

1. Evaluation of the etiological and pathogenetic characteristics of diffuse suppurations.
2. Analysis of the microbial flora in case of phlegmon in the oro-maxillofacial region.
3. Evaluation of the anatomical and pathological features of diffuse suppurations in the OMF region.
4. Assessment of the clinical features of diffuse suppurations in the OMF region.
5. Assessment of systemic features of diffuse suppurations in the OMF region.

At the end of the practical lesson / seminar the student will be able to:

In these class, students will learn: the etiological features of diffuse oromaxillofacial infections (according to contemporary literature), the etiology and pathogenesis with all the mechanisms involved. Students will know and understand the importance of bacteriological determinants and their virulence; will form skills of knowledge and understanding of the clinical, anatomical, pathological specific features and methods of conservative and surgical treatment of oromaxillofacial suppurations.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the seminars: frontal, individual activity, brainstorming sessions, group discussions,

case simulation situations, case study. As didactic support is used the specialised textbooks available in the university library, the methodical recommendations elaborated by the department collaborators, charts, schemes, PowerPoint presentations, national and international professional sites.

Self-assessment questions:

1. The definition of „diffuse suppuration". The main factors leading to diffuse suppurations.
2. Hemifacial phlegmon: spaces involved, etiology, pathogenesis, general and local clinical signs, paraclinical data, diagnosis, treatment.
3. Preparation of the patient for surgery (psychological, medical, general and local training).
4. Selection of anesthetic substances and methods of anesthesia.
5. Basic principles for incisions (aesthetic, regional, size and depth of incisions depending on the topography of nerves and blood vessels, etc.).
6. Peculiarities of the clinical evolution of anaerobic phlegmon. Etiology, pathogenesis, diagnosis, local and general treatment.
7. Phlegmon of the buccal floor. Affected spaces, etiology, pathogenesis, general and local clinical signs, laboratory test, diagnosis, treatment.
8. Preparation of the patient for surgery (psychological, medical, general and local training).
9. Selection of anesthetic substances and methods of anesthesia.
10. Intensive care of patients with inflammatory diseases.

TOPIC 8: NON-SPECIFIC MAXILLARY BONE INFECTIONS

The aim of the study: Evaluation of the characteristics and treatment of non-specific infectious processes in the jaw bones.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Ambulatory.***

Objectives:

1. To determine the etiological factors responsible for the occurrence of infections in the jaw bones.
2. Systematisation of infectious processes in maxillary bone structures.

At the end of the practical lesson / seminar the student will be able to:

In these classes, students will learn the characteristics of infectious processes depending on their localisation (periosteum, compact bone or spongy bone) and methods of conservative and surgical treatment for each pathological form.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the seminars: frontal, individual activity, brainstorming sessions, group discussions, case simulation situations, case study. As didactic support specialised textbooks available in the university library are used, the methodical recommendations of the department collaborators, charts, schemes, PowerPoint presentations, national and international professional sites.

Evaluation of individual work:

During the seminar, students (in groups of 2-3 or individually) will present projects based on current topics. All presentations will have the same evaluation criteria: the ability to extract the essential, interpretive

skills and the ability to analyse and communicate the information accumulated independently. The individual work will be appreciated by the teacher. The teacher will evaluate the clinical thinking of the students participating in the debates.

Self-assessment questions:

1. Definition of the notion of „periostitis". Anatomical-clinical forms (classification).
2. The role of the microflora of the oral cavity, bacterial resistance and anatomical features of the mandible and maxilla in the evolution of odontogenic osteitis.
3. Pathological anatomy.
4. Clinical picture, diagnosis and differential diagnosis of periostitis.
5. Local and general treatment (indications for tooth extraction, periostomy, drainage, local and general pharmacotherapy, physiotherapy).
6. Evolution and complications.
7. Definition of the notions „osteomyelitis" and „odontogenic osteomyelitis".
8. Anatomical-morphological features of the jaws.
9. Etiology and the role of local and general immunity in the evolution of osteomyelitis. Classification.
10. Pathological anatomy of osteomyelitis (in different stages of infection).
11. Clinical picture of acute odontogenic osteomyelitis. Differential diagnosis and treatment.
12. Clinical picture of subacute and chronic odontogenic osteomyelitis. Differential diagnosis and treatment.
13. Local and general conservative treatment.
14. Prophylaxis of chronic odontogenic osteomyelitis and its complications.
15. The definition of „rehabilitation". Basic principles of rehabilitation of patients with osteomyelitis.

TOPIC 9: CERVICOFACIAL LYMPHADENITIS

The aim of the study: Evaluation of the characteristics and treatment of infectious processes in the lymph nodes in the cervicofacial region.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Stationary.***

Objectives:

1. Studying the notions of physiology, histology and anatomical topography of the lymph nodes of the cervicofacial region.
2. Revealing the etiology and pathogenesis of lymphadenitis.

At the end of the practical lesson / seminar the student will be able to:

In these classes, students will learn the characteristics of infectious processes in the cervicofacial lymph nodes and the specificity of clinical and paraclinical examination (blood tests, microbiological, immunelogical and serological test, radiological and lymph node biopsy) and peculiarities of conservative and surgical treatment.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the seminars: frontal, individual activity, brainstorming sessions, group discussions, case simulation situations, case study. As didactic support is used the specialised textbooks available in the university library, the methodical recommendations of the department collaborators, tables, schemes, PowerPoint presentations, national and international professional sites.

Self-assessment questions:

1. Histology of the lymph nodes.
2. Physiological functions of the lymph node: lymphopoiesis, immunological function, filtration function.

3. Anatomical topography of the lymph nodes in the cervicofacial region.
4. Etiology, pathogenesis of inflammatory diseases of the cervicofacial lymphatic system. Classification.
5. Acute lymphadenitis: symptoms, differential diagnosis, treatment principles.
6. Chronic lymphadenitis: symptoms, differential diagnosis, treatment principles.
7. Acute submandibular lymphadenitis: etiology, pathogenesis, clinical picture, differential diagnosis, treatment.
8. Acute parotid lymphadenitis: etiology, pathogenesis, symptommatology, differential diagnosis, treatment.

TOPIC 10: INFLAMMATORY PROCESSES OF THE SALIVARY GLANDS

The aim of the study: Evaluation of the characteristics and treatment of inflammatory processes of the salivary glands in the oromaxillofacial region.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Stationary.***

Objectives:

1. Studying the anatomy, physiology and histology of the salivary glands in the oromaxillofacial region.
2. Studying the etiological and pathogenic factors responsible for diseases of the salivary glands.

At the end of the practical lesson / seminar the student will be able to:

In these class, students will learn the characteristics of inflammatory processes of the salivary glands and the specificity of clinical and paraclinical examination (bacteriological examination, sialography, radiological examination, ultrasonography, magnetic resonance, scintigraphy, cytological examination) and conservative and surgical treatment.

Methods and materials

The theoretical part is taught in a classical way, through lectures, seminars and practical lessons. Different semiotic systems are used to teach and learn the topic, such as scientific language, graphic and computer language. Teaching materials used: charts, graphic images, radiography, video material, CBCT software, PowerPoint presentations.

Individual work of students:

Analysis, systematisation and synthesis of information based on the characteristics of inflammatory diseases of the salivary glands, according to previously chosen topics in seminars and practical lessons.

Teamwork (during the seminar): presentation of different clinical cases to determine the type of complications, the causes of their occurrence and their management.

Self-assessment questions:

1. Anatomy of the salivary glands (parotid, submandibular gland, sublingual gland, small salivary glands).
2. Saliva (volume, quality, composition), functions (digestion, protection, enamel metabolism, antitoxic).
3. Diseases of the salivary glands. Classification.
4. Examination methods of the salivary glands (bacteriological examination, sialography, radiological examination, ultrasonography, magnetic resonance, scintigraphy, cytological examination).
5. Acute sialadenitis: etiology, microbiology, pathological anatomy, complications, differential diagnosis, treatment.
   - Acute epidemic mumps
   - Trivial acute mumps
   - Acute submaxillitis
6. Specific and non-specific chronic sialadenitis.
7. Sialodochitis (ductal sialadenitis).
8. Secretory dysfunctions: sialorrhea, ptialism, hyposialia, asialia.
9. Mikulicz syndrome: etiology, pathogenesis, symptomatology, diagnosis, treatment.
10. Gougerot-Sjogren syndrome: etiology, pathogenesis, clinical picture, treatment.
11. Sialosis: hormonal, dysenzymatic, nutritional, toxic, drug induced.

TOPIC 11: SIALOLITHIASIS OF THE SALIVARY GLANDS

The aim of the study: Evaluation of the characteristics and treatment of salivary sialolithiasis.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Stationary.***

Objectives:

1. Elucidation of the etiological factors responsible for the occurrence of salivary sialolithiasis.
2. Revealing the importance of clinical and paraclinical examination in establishing the diagnosis of salivary sialolithiasis.

At the end of the practical lesson / seminar the student will be able to:

During the seminar, students will learn the etiology, pathogenesis, symptoms, diagnosis and treatment of salivary calculi. During the practical lesson, students will perform the examination, establish a diagnosis and elaborate a treatment plan individually.

Methods and materials

The theoretical material of the topic is taught in a classical way, through lectures, seminars and practical lessons. Different semiotic systems are used to teach and learn the topic, such as scientific language, graphic and computer language. Teaching materials used: tables, diagrams, photographs, radiographs, video material, CBCT software, PowerPoint presentations.

Individual work of students:

Analysis, systematisation and and synthesis of information on surgical treatment for salivary stones, according to the the previously chosen topics.

Teamwork (during the seminar): presentation of different clinical cases to determine the type of complications, the causes of their occurrence and their management.

Self-assessment questions:

1. Sialolithiasis (definition, etiology, pathological anatomy). Clinical picture.
2. Submandibular sialolithiasis: latency period, salivary colic, Salivary abscess, salivary tumor.
3. Parotid sialolithiasis.
4. Sublingual sialolithiasis.
5. Methods of examination of the salivary glands: salivary canal catheterisation, radiography, sialography, bacteriological examination, ultrasonography.
6. Conservative and surgical treatm
7. Complications.

TOPIC 12: SPECIFIC INFECTIONS IN THE MAXILLOFACIAL REGION

The aim of the study: Evaluation of the characteristics and treatment of specific infectious processes in the maxillofacial territory.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Ambulatory.***

Objectives:

1. Elucidation of the etiological factors responsible for the occurrence of salivary sialolithiasis.
2. Revealing the importance of clinical and paraclinical examination (specific) in establishing the diagnosis of specific infection.
3. Knowledge of the pathognomonic characters and forms of specific infections in the maxillofacial region.

At the end of the practical lesson / seminar the student will be able to:

During the seminar, students learn the etiology, pathogenesis, symptoms, diagnosis and treatment of specific infections in the maxillofacial territory. During the practical lesson students will participate in the examination, diagnosis and treatment of patients and write down in the notebooks the performed procedures.

Methods and materials

The theoretical material of the topic is taught in a classical way, through lectures, seminars and practical lessons. Different semiotic systems are used to teach and learn the topic, such as scientific language, graphic and computer language. Teaching materials used: tables, diagrams, photographs, radiographs, video material, CBCT software, PowerPoint presentations.

Individual work of students

Analysis, systematisation and synthesis of information on surgical treatment for specific infections in the maxillofacial region, in accordance with the topics previously chosen in seminars and practical lessons.

Teamwork (during the seminar): presentation of different clinical cases to determine the type of complications, the causes of their occurrence and their management.

Self-assessment questions:

1. *Cervicofacial actinomycosis:* etiology, microbiology, pathological anatomy.
    a. classification according to clinical forms and location (cutaneous, subcutaneous, mucosal, submucosal form, actinomycetic odontogenic granuloma, muscular subcutaneous form, actinomycosis of lymph nodes, actinomycosis of the periosteum, actinomycosis of bones, organs of the oral cavity).
    b. diagnosis (according to clinical data, onset and evolution, microbiological analyses, skin prick tests, immunodiagnosis, radiological and morphopathological peculiarities).
    c. differential diagnosis and treatment (surgical, immunotherapy, anti-inflammatory, desensitization, radiotherapy, physiotherapy, etc.).
2. *Tuberculosis:*
    a. microbiology, etiology, pathological anatomy, classification,
    b. primary tuberculosis, clinical forms, symptomatology, diagnosis, treatment.
    c. secondary tuberculosis (ulceration, TB gumma, TB lupus), symptoms, diagnosis, treatment.
3. *Syphilis:*
    a. microbiology, etiology, pathogenesis.
    b. primary, secondary and tertiary stages.
    c. clinical picture, diagnosis and differential diagnosis.

TOPIC 13: FURUNCLE AND CARBUNCLE

The aim of the study: Evaluation of the characteristics and treatment of inflammatory skin manifestations caused by staphylococci and streptococci.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Ambulatory.***

Objectives:

1. Elucidation of the etiological microbiological factors responsible for the appearance of pyoderma.
2. Revealing the importance of the clinical examination in establishing the diagnosis of furuncle/ carbuncle.
3. Knowledge of the pathognomonic characters and forms of pyoderma in the maxillofacial region.

At the end of the practical lesson / seminar the student will be able to:

During the seminar, students learn the etiology, pathogenesis, symptoms, diagnosis and specific treatment of furuncle/ carbuncle in the maxillofacial territory. During the practical lesson he participates in the examination, diagnosis and treatment of patients and writes down the performed procedures.

Methods and materials

The theoretical material of the topic is taught in a classical way, through lectures, seminars and practical lessons. Different semiotic systems are used to teach and learn the topic, such as scientific language, graphic and computer language. Teaching materials used: tables, diagrams, photographs, radiographs, video material, CBCT software, PowerPoint presentations.

Individual work of students:

Analysis, systematization and synthesis of information on surgical treatment for specific infections in the maxillofacial region, in accordance with the topics previously chosen in seminars and practical lessons.

Teamwork (during the seminar): presentation of different clinical cases to determine the type of complications, the causes of their occurrence and their management.

Self-assessment questions:

1. Skin as a natural barrier in pyogenic infection.
2. The mechanism of infection in the hair follicle.
3. Furuncle and carbuncle. Localization.
4. Furuncle symptoms.
5. Symptomatology of carbuncle.
6. Possible complications in furuncles and carbuncles.
7. Principles of treatment. Conservative treatment.
8. Specific features of surgical treatment in facial furuncles and carbuncles.
9. The prevention of the furuncles and carbuncles.

TOPIC 14: ODONTOGENIC MAXILLARY SINUSITIS

The aim of the study: Evaluation of the characteristics and treatment of odontogenic maxillary sinusitis.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Ambulatory.***

Objectives:

1. Studying the anatomy of the maxillary sinus.
2. Knowledge of the physiology of the facial sinuses.
3. Knowledge of the pathognomonic signs in sinusitis for establishhing an diagnosis and defining the treatment plan.

At the end of the practical lesson / seminar the student will be able to:

During the seminar, students will learn the characteristics of facial sinusitis (etiology, pathogenesis, ways of spreading the infection), as well as the specificity of the clinical and paraclinical examination of sinusitis and conservative/ surgical treatment.

In the practical lessons, students will examine patients with maxillary sinusitis or oro-sinus communications, perform local anesthesia and participate in surgical treatment.

Methods and materials

The theoretical material of the topic is taught in a classical way, through lectures, seminars and practical lessons. Different semiotic systems are used to teach and learn the topic, such as scientific language, graphic and computer language. Teaching materials used: charts, diagrams, photographs, radiographs, video material, CBCT software, PowerPoint presentations.

Individual work of students:

Analysis, systematisation and synthesis of information on inflammation of the mucosa of the maxillary sinus, in accordance with the topics previously chosen in seminars and practical lessons.

Self-assessment questions:

1. Anatomy and physiology of the maxillary sinus. The relation of the maxillary sinus to the roots of the upper teeth.
2. Acute odontogenic maxillary sinusitis. Etiology, pathogenesis, clinical picture, differential diagnosis and treatment.
3. Chronic odontogenic maxillary sinusitis: classification, clinical evolution, diagnosis, treatment.
4. Radical sinusotomy. Stages.
5. Etiology of oro-antral communications. Clinical evolution, diagnosis, treatment.
6. Surgical techniques in oro-antral communication. Stages.

TOPIC 15: LOCAL AND GENERAL COMPLICATIONS IN OROMAXILOFACIAL INFLAMMATORY PROCESSES

The aim of the study: Evaluation of the characteristics and prophylaxis of local and general complications correlated with inflammatory processes in the oromaxillofacial region.

Duration and type of activity: The material is taught in 7 academic hours, of which: 2 hours of theoretical course, 5 hours of seminar and practical lessons. ***Stationary.***

Objectives:

1. Detection of the pathogenicity of bacterial agents involved in the etiology of local and general bacterial infections.
2. Knowledge of the characteristics of generalised bacterial infections.
3. Illustration of the importance of prophylaxis in local and general complications caused by OMF infectious processes.

At the end of the practical lesson / seminar the student will be able to:

During the seminar, students learn the etiology, pathogenesis, symptoms, diagnosis and treatment of local and general complications caused by OMF infectious processes.

Methods and materials

The topic is taught through traditional teaching strategies (theoretical course). The following forms of training are used in the seminars: frontal, individual activity, brainstorming sessions, group discussions, case simulation situations, case study. As didactic support is used the specialised textbooks available in the university library, the methodical recommendations of the department collaborators, tables, schemes, PowerPoint presentations, national and international professional sites.

Self-assessment questions:

1. General and local complications in infectious processes in the oromaxillofacial region.
2. Septic thrombophlebitis. Etiology, pathogenesis, clinical picture, differential diagnosis and treatment.
3. Phlebitis. Etiology, pathogenesis, clinical picture, differential diagnosis and treatment.
4. Cavernous sinus thrombosis. Etiology, pathogenesis, clinical picture, differential diagnosis and treatment.
5. Sepsis. Etiology, pathogenesis, clinical picture, differential diagnosis and treatment.
6. Mediastinitis. Etiology, pathogenesis, topographic anatomy of the mediastinum, clinical picture, differential diagnosis and treatment.
7. Mandible deformities. Pseudoarthrosis. Long-lasting trismus and ankylosis.
8. Fistulas of the face and neck. Vicious scars.
9. Topographic anatomy and disorders of the facial and trigeminal nerves.
10. Other local complications that affects phonation, deglutition etc.

BIBLIOGRAPHY

1. Theoretical course/lectures materials.
2. **Bucur A**. Compendium de chirurgie oro-maxilo-facială. Bucureşti, 2009.
3. **Burlibaşa C.** Chirurgie orală şi maxilo-facială. Bucureşti, 2007.
4. **Hupp James R., Ellis III Edward, Tucker Myron R.** Contemporary Oral and Maxillofacial Surgery. Fifth Edition. Mosby Elsevier, 2008.
5. **Miloro M., Ghali G.E., Larsen P.E., Waite P.D.** Peterson's principles of oral and maxillofacial surgery, BC Decker, 2004.
6. **Rotaru A**., **Băciuț G., Rotaru H.** Chirurgie maxilo-facială. Volumul I. Cluj-Napoca, 2003.
7. **Робустова Т. Г**. Хирургическая стоматология и челюстно-лицевой хирургия.Москва: ГэотарМедия, 2010.
8. **Шаргородский А.Г**. Воспалительные челюстно-лицевой области и шеи. Москва, 1985. 350 с.
9. **Бернадский Ю. И**. Основы челюстно-лицевой хирургии и хирургической стоматологии, 3-е изд. Перераб и доп. Москва: Медицинская литература, 2007
10. **Щербатюк Д.И**. Профилактика и лечение воспалительных заболеваний челюстно-лицевой области. Кишинев, 1987.

SKILLS OBTAINED

1. Knowledge and understanding of the peculiarities of the evolution of inflammatory processes in the oromaxillofacial region;
2. Explaining and interpreting the results obtained from clinical and paraclinical investigations in the patients with inflammation / infections in the oromaxillofacial region (abscess, phlegmon, sialadenitis, sinusitis, osteomyelitis, specific infection, etc.);
3. Knowledge of the principles of skin incisions in the oro-maxillo-facial region. taking into consideration the anatomical elements located in this territory;
4. Prescribing and explaining the recommended conservative treatment in infectious processes depending on the severity of the disease;
5. Solving situation problems and formulating conclusions.

AT THE END OF THE COURSE THE STUDENT WILL BE ABLE

1. to understand the particularities of the infectious processes in the oro-maxillofacial region;
2. to know the clinical and paraclinical methods of investigation used in the diagnosis of infectious processes in the oro-maxillo-facial region;
3. to know the technique of surgical procedures in the oromaxillofacial region;
4. to assess the severity of the inflammatory / infectious process;
5. to know how to provide the first aid;
6. to understand the ways of spreading the inflammatory / infectious process;
7. to know the basics and the practical role of the indicated treatment for the prophylaxis of possible complications;
8. to respect the clinical medical deontology of the student-doctor;
9. be competent to use the knowledge gained in medical practice;
10. be able to deduce the possible causes of infectious processes occurrence and their consequences, as well as the consequences of the prescribed conservative treatment.

ANNEXES

Clinical case N 1

Patient A, aged 31, came to the dentist with the following complaints: pain and swelling in the left submandibular region, discomfort during mastication, fatigue, irritability, moderate headache. From the history of the disease we found out that a week ago he had pain in the region of tooth 36, he did not go to the doctor. In 2 days, swelling in the submandibular region on the left occurred. He went to the IMU independently for consultation and complex treatment.

Specialized clinical examination.

Extraoral clinical examination: Oval, asymmetrical face due to edema in the right submandibular region, painful palpation, fluctuation, hyperaemic, swollen, tense skin. Bone palpation revealed no signs of fractures. Local lymph nodes are not palpable.

Intraoral *clinical examination:* Mouth opening-normal range. Pale, pink mucosa, except the mucosa in the region of tooth 3.6 on the left vestibular wall, which is moderately swollen, hyperaemic and moderately painful at palpation. The inspection showed a massive filling in tooth 3.6, the percussion- slightly painful Physiological occlusion.

18	17	16	15	14	13	12	11		21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41		31	32	33	34	35	36	37	38

The radiological examination:

Tasks:

1. Define the presumptive diagnosis based on the symptoms / signs described in the statements above.
2. Explain the presumptive diagnosis.
3. Describe the topographic anatomy of the region involved in the process.
4. Describe the X-ray.
5. Make the differential diagnosis and explain it.
6. Indicate additional clinical / paraclinical examinations, arguing their need (if this applies).
7. Establish the final diagnosis and explain it.
8. Establish the treatment plan (surgical and / or therapeutic and / or conservative if necessary and explain your choice).
9. Determine, based on the X-ray, what other investigations and treatment (surgical, therapeutic or prosthetic) should be performed in this patient for his rehabilitation.

Clinical case N2

Patient X goes to the dentist with the following complaints: edema and pain in the right submandibular region.

From the history of the disease, we found that about 4 months ago the patient noticed some painful swelling in the right submandibular region, pain, gradually some pus was eliminated. He administrated some medicine by himself. The condition has improved. For 4 days, the swelling got worse and pain has increased. He went to a dentis, that referred him to the IMU. The patient was examined and admitted for hospital in theOMF department for complex investigations and treatment.

Specialized clinical examination.

E*xtraoral examination:* Facial asymmetry due to edema in the right submandibular region. Palpation revealed an infiltrate, size 4 * 5 cm, in the right submandibular region, well delimited, mobile, of hard consistency, painful, non-adherent to the skin, irregular in shape. The skin has a normal colour and temperature.

Intraoral examination: Mouth opening- not limited, the mucosa-pale pink. At bimanual palpation of the submandibular gland on the right side, purulent discharges from the Warthon duct are determined. Occlusion is physiological.

18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38

The radiological examination:

Tasks:

1. Define the presumptive diagnosis based on the symptoms / signs described in the statements above.
2. Explain the presumptive diagnosis.
3. Describe the topographic anatomy of the submandibular region.
4. Describe the X-ray.
5. Make the differential diagnosis and explain it.
6. Order additional clinical / paraclinical examinations, arguing their necessity (if applicable).
7. Establish and explain the final diagnosis.
8. Establish and explain a treatment plan (surgical and / or therapeutic and / or medicinal) for this patient.
9. Determine, based on the X-ray, what other investigations and treatment (surgical, therapeutic or prosthetic) should be performed on the patient for his rehabilitation.