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INTEGRAL INDICATOR OF THE LOCAL STATUS COMPLEXITY OF MAXILLOFACIAL LOCALIZATION PYOINFLAMMATORY PROCESS

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The system of assessing intensity of osteomyelitis' manifestations in various forms was presented in current research paper.

When analyzing clinical signs of osteomyelites (ICD X, M 86) we have come to conclusion that patients' complaints concerning general weakness, headakes, increase of body temperature, atony, slowed response, appetite disorders, sleep disorders can be observed in case of such diseases as periodontitis (ICD X, K 04.5), periostitis (ICD X, M 86.9, M 90.1), abscesses (ICD X, L 02.0), phlegmons (ICD X, L 03.2) etc., i.e. They belong to non-specific ones. Intensity of the local pain syndrome is the most natural index in case of abscesses and phlegmons of maxillofacial area. At the same time, in conditions of chronic forms of osteomyelitis (especially that one of traumatic nature) pains have a fading nature and bear a brightly expressed subjective imprint, and due to this fact their assessment becomes much more difficult.

In case of external examination of the maxillofacial area (such as in case of an acute odontogenic osteomyelitis of the lower jaw as well as in case of a traumatic osteomyelitis of the lower jaw) the following points can be pointed out: 1) edema, local thickening or "swelling" of the jaw-bone; 2) infiltration of the surrounding soft tissues; 3) thinning and increased tension of skin over the infiltrate; 4) availability of fistula which can cause pus and abundant granulations.

Availability and intensity of edema also requires differentiation of osteomyelitis from periodontitis, lymphadenitis and other infectious inflammatory diseases of the maxillofacial area, but edema availability and intensity belongs to the most stable signs of the studied pathology forms. Infiltration of soft tissues can be noticed not only in case with purulent inflammatory jaws' diseases (including such diseases as osteomyelitis, abscesses and phlegmons) but it also reflexes severity of these diseases; and that of course requires the severity of this parameter to be taken into account. Nowadays availability of a fistula and nature of the released substance are considered to be pathognomic signs of osteomyelitis and in particular osteomyelitis of the lower jaw.

When observing oral cavity the mucous membrane of transitional fold is usually of blue-purple color. It is edematous and thickened in a muffle way. There are granulations and thick puss at necks of mobile teeth, and in case of lower jaw traumatic osteomyelitis this fact contributes to smoothing out the clinical picture severity as well as to transition of the disease to its chronic form. From our point of view, the status of mucous membrane deserves a peculiar attention due to the fact that it may also accompany, for example, the widespread forms of periostitis or festered cysts (ICD X, K 09).

Another significant feature accompanying lymphadenites (ICD X, L 04.2) or sialoadenites (ICD X, K 11.2) consists in the status of local (submaxillary and submental) lymph nodes. In conditions of lower jaw osteomyelitis this parameter will reflect the level of involvement of the adjacent tissues into the pathological process.

On the basis of the above-presented information we have defined the following severity signs of local manifestations of lower jaw osteomyelitis (these signs were subdivided according to the level of their intensity): the level of edema of soft tissues on the side of the disease; volumes and consistency of their infiltration; color of skin over the infiltrate; availability of a fistula in the focal point of the substance produced by the fistula; status of the transition fold mucous membrane in the oral cavity on the side of the disease; status and mobility of mandibular and submental lymph nodes.

The local clinical picture of the disease was supplemented with the data of X-ray examination. For carrying out the examination digital dental X-ray unit was used (ORTHOPHOS Plus DS Ceph) with the multiimpulse generator, a roentgen tube (SR 90/15 FN) and the system for digital processing of images (SIDEXIS, produced by SIRONA Dental Systems GmbH). During the X-ray examination of patients with odontogenous lower jaw osteomyelitis the following items were defined: porous and uneven bone areas; foci of its destruction; changed structures and seques-

tral capsules. In conditions of lower jaw traumatic osteomyelitis the width, peculiarities of borders of the fracture gap, presence of fracture rearrangements in the system of bone tissue, rearrangement of sequestral capsule, jaw deformation, availability of broken fragments and status of their borders were characterized by means of orthopantomograms. An integral index of severity of the patient's status before the lanned surgical intervention and variations of this status on stages of postoperative treatment is presented as an arithmetic sum of grades.

Keywords: integral system, integral index of patient's status severity, inflammatory processes, maxillofacial area, osteomyelitis of the lower jaw.

Research paper on the following topic: "Preventing Complications during the Treatment of Injuries and Inflammatory Processes in the Maxillofacial Area" is a part of a scientific theme: "Conservative Therapy Methods Developing in Complex Treatment of Common Purulent-septic Diseases of the Maxillofacial Area") State registration No 0115U005720).

Introduction. Nowadays 10.0% to 20.0% of patients requiring surgical help in conditions of dental polyclinics and up to 50.0% of patients at maxillofacial hospitals [1] are suffering from purulent inflammatory diseases. At the same time osteomyelitis of the jaws (especially of the lower jaw) is one of the most widespread and complicated forms of complications occurring as the result of jaw fractures or odontogenic inflammatory diseases [2].

The Purpose of Research. Despite the fact that clinical picture of jaw osteomyelitis emergence and development has been described long time ago [3], nowadays the main problem is connected with its symptomatology systematization, its algorithmization as well as development and introduction of new clinical and laboratory programs of diagnostics and advanced methods of treatment, giving an opportunity to improve results of complex therapy and available for widespread use [1, 4, 5].

Materials and Methods. Until now selection of leading clinical signs of pathology of head, face and neck, using these signs for differential diagnostics and objectivation of disease recognition has been one of relevant objectives in the sphere of maxillo-facial surgery [1, 4, 6].

A great significance in forecasting infectious inflammatory diseases has been acquired by assessing the local status of a pathological process as a component of accessing the severity of the entire organism state. From our point of view, assessment of abscesses and phlegmons of maxillofacial area is the most successful [7]. This assessment is based on such local clinical signs as tumescence (due to edema and infiltration of tissues), hyperemia of skin (dermahemia), pain at rest and functional irregularities related with localization of this process (irregularities in opening mouth, chewing, swallowing, speaking, breath or eyesight); but it does not fully reflect the set of symptoms of the local status of the affected maxillofacial area.

Results and its Discussion. When analyzing clinical signs of osteomyelites (ICD X, M 86) we have come to conclusion that patients' complaints concerning general weakness, headakes, increase of body temperature, atony, slowed response, appetite disorders, sleep disorders [6] can be observed in case of such diseases as periodontitis (ICD X, K 04.5), periostitis (ICD X, M 86.9, M 90.1), abscesses (ICD X, L 02.0), phlegmons (ICD X, L 03.2) etc., i.e. They belong to non-specific ones. Intensity of the local pain syndrome is the most natural index in case of abscesses and phlegmons of maxillofacial area. At the same time, in conditions of chronic forms of osteomyelitis (especially that one of traumatic nature) pains have a fading nature [8] and bear a brightly expressed subjective imprint [9], and due to this fact their assessment becomes much more difficult.

In case of external examination of the maxillofacial area (such as in case of an acute odontogenic osteomyelitis of the lower jaw as well as in case of a traumatic osteomyelitis of the lower jaw) the following points can be pointed out: 1) edema, local thickening or "swelling" of the jaw-bone; 2) infiltration of the surrounding soft tissues; 3) thinning and increased tension of skin over the infiltrate; 4) availability of fistula which can cause pus and abundant granulations [8].

Among these signs availability and intensity of edema also requires differentiation of osteomyelites from periodontitis, lymphadenitis and other infectious inflammatory diseases of the maxillofacial area, but edema availability and intensity belongs to the most stable signs of the studied pathology forms. Infiltration of soft tissues can be noticed not only in case with purulent inflammatory jaws' diseases (including such diseases as osteomyelites, abscesses and phlegmons) but it also reflexes severity of these diseases; and that of course requires the severity of this parameter to be taken into account. Nowadays availability of a fistula and nature of the released substance are considered to be pathognomic signs of osteomyelites and in particular osteomyelites of the lower jaw [8].

When observing oral cavity the mucous membrane of transitional fold is usually of blue-purple color. It is edematous and thickened in a muffle way. There are granulations and thick puss at necks of mobile teeth [10], and in case of lower jaw traumatic

Table 1 – Integral index of the local status of lower jaw osteomyelitis' severity in points

№	Symptoms	Number of points			
		0	1	2	3
1.	Edema	No symptom	Slightly expressed	Expressed	Strongly expressed
2.	Infiltrate	No symptom	Size of 1 - 2 cm	Size 3 - 4 cm	Size 5 - 6 cm and more
3.	Consistency Infiltration	Soft	Testing	Dense	Wooden
4.	Skin color over infiltrate	Not changed	Slightly hyperemic	Hyperemic	Drastically hyperemic
5.	Character of the fistula	No symptom	Serous fluid is allocated	Isolated liquid, greenish pus, in abundant amounts	Isolated lean, viscous, yellowish pus
6.	Mucous transitional folds	Not changed	Smooth, moderately hyperemic	Swollen, hyperemic	Infiltrated, sharply hyperemic
7.	Regional lymph nodes	Not enlarged	Increased on the side of the pathological process, mobile	Increased on the side of the pathological process, inactive	Increased on both sides, inactive
8.	On the roentgenogram of the lower jaw: - affected by odontogenic osteomyelitis, it is determined	No symptom	Uneven, porous parts of bone	Expressed foci of destruction in bone tissue	Rebuilding the structure of the bone tissue site with the presence of sequential capsules
	- affected by traumatic osteomyelitis, it is determined	There are no changes in fracture cracks	Expansion of the gap between jaw fragments up to 1 mm with clear boundaries	Slot fracture of uneven width, with extensions up to 8 mm	Rebuilding the structure of the bone tissue site with the presence of sequential capsules in the area of bone fragments Post-traumatic deformation of the jaw site with the occurrence of fragments of 0.2-0.8 cm with smoothed outlines without a clear differentiation of the fragments Post-traumatic deformation of the jaw area more than 0.8 cm wide, the edges of the fragments are sclerotized Post-traumatic deformation of the jaw site with a defect in bone tissue without clear outlines, irregular shape, sometimes with the presence of sequential capsules

osteomyelitis this fact contributes to smoothing out the clinical picture severity as well as to transition of the disease to its chronic form. From our point of view, the status of mucous membrane deserves a peculiar attention due to the fact that it may also accompany, for example, the widespread forms of periostitis or festered cysts (ICD X, K 09).

Another significant feature accompanying lymphadenites (ICD X, L 04.2) or sialoadenites (ICD X, K 11.2) consists in the status of local (submaxillary and submental) lymph nodes [3, 11]. In conditions of lower jaw osteomyelitis this parameter will reflect the level of involvement of the adjacent tissues into the pathological process [12, 13, 14, 15].

On the basis of the above-presented information we have defined the following severity signs of local manifestations of lower jaw osteomyelitis (these signes were subdivided according to the level of their intensity): the level of edema of soft tissues on the side of the disease; volumes and consistency of their infiltration; color of skin over the infiltrate; availability of a fistula in the focal point of the substance produced by the fistula; status of thetransition fold mucous membrane in the oral cavity on the side of the disease; status and mobility of mandibular and submental lymph nodes.

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The preliminary analysis of the received results showed that in our conditions of observation availability of a fistula is a general index and is of no importance when defining efficiency of therapeutic intervention.

Conclusions. The system of assessing intensity of manifestations of osteomyelitis various forms was presented (in grades) (it is presented in **table**). An integral index of the patient's status severity before the lanned surgical intervention and variations of this status on stages of postoperative treatment was presented as an arythmetic sum of grades.

Prospects for Further Research. This proposal requires actual checking and confirmation in case of any form of lower jaw osteomyelitis.

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ІНТЕГРАЛЬНИЙ ПОКАЗНИК ТЯЖКОСТІ МІСЦЕВОГО СТАТУСА ГНІЙНО-ЗАПАЛЬНОГО ПРОЦЕСА ЩЕЛЕПНО-ЛИЦЕВОЇ ЛОКАЛІЗАЦІЇ

Комський М. П., Дроздов О. Л.,
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Резюме. Запропонована інтегральна система оцінки вираженості місцевих проявів різних форм остеомієліту в балах.

Були виділені в якості клінічних ознак тяжкості місцевих проявів остеомієлітів нижньої щелепи 8 показників, які були розділені за ступенем вираженості: стан набряку м'яких тканин на стороні захворювання; розміри і консистенція їх інфільтрації; колір шкіри над інфільтратом; наявність свища в фокусі осередку ураження; характер виділень із свищевого ходу; стан слизової оболонки перехідної складки порожнини рота на стороні захворювання; стан і рухливість підщелепних і підпідборідних лімфатичних вузлів. Місцева клінічна картина захворювання доповнювалася даними рентгенологічного дослідження. Інтегральним показником тяжкості стану хворого до проведення хірургічного втручання і його зміни на етапах післяопераційного лікування є арифметична сума балів.

Ключові слова: інтегральна система, інтегральний показник важкості стану, запальні процеси, щелепно-лицева ділянка, остеомієліт нижньої щелепи.

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ИНТЕГРАЛЬНЫЙ ПОКАЗАТЕЛЬ ТЯЖЕСТИ МЕСТНОГО СТАТУСА ГНОЙНО-ВОСПАЛИТЕЛЬНОГО ПРОЦЕССА ЧЕЛЮСТНО-ЛИЦЕВОЙ ЛОКАЛИЗАЦИИ

Комский М. П., Дроздов О. Л.,
Бузоверя А. А., Макогон М. В.

Резюме. Предложена интегральная система оценки выраженности местных проявлений различных форм остеомиелитов в баллах.

Были выделены в качестве клинических признаков тяжести местных проявлений остеомиелитов нижней челюсти 8 показателей, которые были разделены по степени выраженности: состояние отека мягких тканей на стороне заболевания; размеры и консистенция их инфильтрации; цвет кожи над инфильтратом; наличие свища в фокусе очага поражения; характер свищевого отделяемого; состояние слизистой оболочки переходной складки полости рта на стороне заболевания; состояние и подвижность подчелюстных и подподбородочных лимфатических узлов.

Местная клиническая картина заболевания дополнялась данными рентгенологического исследования.

Интегральным показателем тяжести состояния больного до проведения хирургического вмешательства и его изменения на этапах постоперационного лечения является арифметическая сумма баллов.

Ключевые слова: интегральная система, интегральный показатель тяжести состояния, воспалительные процессы, челюстно-лицевая область, остеомиелит нижней челюсти.

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