

**ACUTE ODONTOGENIC INFLAMMATORY DISEASES OF MAXILLOFACIAL AREA.
VARIANT OF THE COURSE OF DIFFERENT CLINICAL FORMS**

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Introduction. Acute odontogenic inflammatory processes (AOIP) constitute a significant medical problem in the clinical practice of surgical stomatology [1,2,3,4,5]. In the overall structure of dental diseases of traumatic and nontraumatic genesis, the incidence of inflammatory processes in the maxillofacial region varies within 55-65% and in the structure of acute suppurative-inflammatory diseases, MFA reaches 69.5% and currently has a tendency to increase [1,2,3,4,6,7,8].

In this regard, the study of the clinical and functional state of patients with AOIP allows choosing the optimal therapy based on the principles of prevention of cosmetic defects of the facial soft tissues and the functional state of mimic muscles, as well as the violation of the functionality of all trophotropic systems and mechanisms [4,5,8,9].

Aim. To study the variants of the course of different clinical forms in patients with acute odontogenic inflammatory processes of the maxillofacial area.

Object and methods. A total of 91 patients with AOIP were investigated. The control group included 30, practically healthy patients. The diagnosis of AOIP was based on a preliminary clinical and radiological examination. Depending on the introduction of gravity and the degree of involvement in the inflammatory process of bone and surrounding soft tissues, the faces of all patients were divided into 3 groups. 1 – patients who were diagnosed with acute odontogenic periostitis (25 persons), 2 – 23 patients with osteomyelitis, the third – patients with osteomyelitis, complicated with phlegmon AOIP (36 people). Among patients with periostitis, the majority of patients were women (64%), osteomyelitis and phlegmons (56.7% and 58.3%). The average age of patients with odontogenic periostitis is 30.5 ± 1.43 years, osteomyelitis is 26.2 ± 1.76 , and the phlegmons of MFA are 41.3 ± 2.02 . The age of the patients in the control group was 36.2 ± 1.87 years.

Results and discussion. In the initial stages of AOIP, pain was detected during percussion of the «causal» tooth: at periostitis in 22 (88%) patients, osteomyelitis – in 18 (60%), with phlegmon – 15 (41.7%) patients. «Causal» tooth, in the initial examination – fixed, was found in patients with periostitis, and was 22 (88%). As the infectious-inflammatory process progresses, the tooth is shaken; its mobility in osteomyelitis was diagnosed in 20 (66.7%) cases, with phlegmon – in 25 (69.4%). The mucus of transient convulsion and gums in the area of the teeth were hyperemic, swollen, sharply painful when palpated.

In patients with periostitis, this reaction was local and occurred in 19 (78%) cases, with osteomyelitis and phlegmon, it covered several teeth or half of the jaw, in the first case it was observed in 26 (86.7%), in the other – in 36 (100%) of patients.

In periostitis, in most cases (64%), there was a swelling of soft tissues, the smoothness of transient convulsion, changes in face configuration with the subsequent formation of subacute abscess. If the «causal» tooth was the jaw of the upper jaw, the edema spread to the ankle and cheek area, the angle of the mouth, the wing of the nose, and sometimes the lower eyelid (8%). In the vestibular localization of the abscess of the upper jaw in the area of central and lateral incisors, swelling spread to the wings of the nose and upper lip (8%). In 2 (8%) cases, the localization of abscess from the palatal side of the premolar inflammatory infiltrates spread to the corresponding half of the solid palate. With the involvement of lateral and central incisors, swelling directly covered the anterior part of the solid palate on both sides of the middle line (8%). In cases where «causal» teeth were molars, swollen tissues of the wing-jaw convection, mucous membrane of soft palate and anterior palatal arcuate (8%). When the first major root tooth was damaged, the upper jaw and small root teeth were swollen to the ankle, cheek, spiny area, upper lip, lower eyelid, and the smoothness of the nasopharyngeal fold with the lowering of the corner of the mouth, which was 5 (20%), was observed. In the purulent-inflammatory process in the region 2 and 3 of the major root teeth of the upper jaw manifested swelling of the cheek, caudal, temporal and upper division of the parietal-chewing area (8%). In the cases of the source of infection in the area of incisors or premolars, with periostitis of the mandible the edema spread to the lower lip with the lowering of the corner of the mouth, as well as on the lower and middle section of the cheek area and in the submandibular area (5 cases – 20%). If the «causal» tooth was a molar, then, with periostitis of the mandible, the swelling involved the parotid chewing, submandibular regions with the harmony of the contour of the lower edge and the angle of the mandible, and also the wing-jaw space, the lower and middle sections of the chewing area, which was observed in every n the patient.

In osteomyelitis of the jaw in the «depth» of the edema in 21 (70%) cases, palpated infiltrate, with phlegmons in all cases there was a symptom of fluctuations; in 26 (86.7%) patients with osteomyelitis, the symptom of Vensan with paresthesia in the region of the half of the lower lip and the vagina was diagnosed on the basis of which, under inflammation, compression or rupture of the fibers of the lower alveolar nerve, caused by pathological changes of tissues of the mandible, was diagnosed.

In all clinical variants of AOIP, signs of regional lymphadenitis have been identified. In periostitis, in 20 (80%) cases, the process was involved in the submandibular, in

16 (64%) patients – cheek and extremely rare (2 cases – 8%) – parotid lymph nodes.

In osteomyelitis in the inflammatory process acted from 2 to 4 lymph nodes. Most often it was: submandibular, cheek and parotid nodes. In phlegmons of MFA almost all patients developed lymphadenopathy of all regional lymph nodes.

The study of the state of masticatory muscle in many respects depended on the course of AOIP, and on the possible localization of the process, which most often manifested in phlegmons. In half of the cases of osteomyelitis pain was observed when palpation of chewing muscles and a slight pronounced myalgia of the muscles of the temporomandibular joints, and sometimes also significant pain sensations when chewing. Similar signs were manifested in all patients with phlegmons. Painful phenomena in chewing muscles, despite muscular-tonic manifestations, were diagnosed in 31 (86.1%) patients, which was determined by the localization of the purulent-inflammatory process.

Anatomical and topographical picture of the localization of acute odontogenic phlegmon is presented in table.

Table – Anatomical and topographical map of localization of acute odontogenic phlegmon

Localization	Number of patients in the group	
	Abs	%
Wing fossa and the spanning site	1	2,8
The bottom of the oral cavity	1	2,8
Wing-jaw space	14	38,9
Spotted area	2	5,6
Smooth-chewy area	2	5,6
Axillary site	2	5,6
Submandibular area	12	33,3
Subcutaneous site	2	5,6
Total	36	100

We have found that most often the localization of AOIP, namely, phlegmon, is the jaw and submandibular wing.

The phlegmon of the chilly-jaw space predominantly developed due to acute odontogenic osteomyelitis of the angle and branches of the mandible in the complications of periodontitis of molars and was characterized by a sharp pain in the opening of the mouth, swallowing act, as well as contracture of the masticatory muscles. In patients with this pathology, a slight asymmetry of the face was noted, as the inflammatory infiltrate localized in the branch of the mandible. Phlegmon of the parotid chewing area in 2 (5.6%) cases developed during the spread of the infectious process from molars of the mandible. The infiltrative process was concealed mainly by the masticatory muscles, resulting in a clear palpation of their pain. Phlegmon of the submandibular space was characterized by painful sensations in swallowing and opening the mouth, swollen submandibular triangle and contracture of the temporomandibular joints. Phlegmon of the ankle region (2-5,6% of cases) developed as a result of the spread of the infectious process from icons or premolars of the upper jaw. Inflammatory infiltrates spread on the lateral surface of the nose, upper lip, lower eyelid. In the phlegmon of the subpopulation area in 2 clinical cases, the focal points of the infections were submandibular

and sublingual areas. The phlegmon of the cheek area in 2 cases developed as a complication of periodontitis of premolars, molars, and was accompanied by edema of the eyelids, upper lip, cheeks and significant limitation of opening of the mouth. In the 1 st case, the phlegmon of the winged and temporal pits developed as a result of the complication of periodontitis of 7 and 8 teeth of the upper jaw and accompanied by edema of the temporal and parotid chewing areas and the contracture of the masticatory muscles. In the case of phlegmon of the bottom of the oral cavity, the inflammatory process developed from infectious centres in the area of premolars, osteomyelitis of the mandible. In this case, swelling appeared under the jaw, subepidiodine and hypochondria, accompanied by painful and difficult chewing and swallowing.

In 7 (19.4%) cases, 2 or more phlegmons were detected in patients with odontogenic phlegmon MFA, directly at later stages of the disease: 2-3 days in 1 (2.8%) patients, 4-6 days in 3 (8.3%) patients, on day 10 and later in 3 (8.3%) patients in the group.

The conducted research showed that the syndrome of defeat of soft tissues of MFA in a quantitative measurement under different variants of the AOIP was: with periostitis 9.9 ± 0.04 (II degree of injury), with osteomyelitis – 13.6 ± 0.03 (II degree of injury), with phlegmon – $20,4 \pm 0,04$ (III degree of defeat).

Clinical assessment of the condition of the mimic muscles of the lower face allowed to establish that in 29 (80.6%) patients with phlegmon of MFA, the greatest violations were characterized by a sharp violation of the opening of the mouth. In osteomyelitis, in 18 (60%) cases, the asymmetry of the nasopharyngeal folds was detected, while in the case of periostitis in 13 (52%) cases, the nasal-pleural folds from the patient's side (vis-à-vis periostitis of the upper premolars or incisors) appeared visually.

In all cases, the clinical picture was accompanied by a general inflammatory reaction and intoxication with a sharp increase in temperature, diffuse headache, expressed general weakness, appetite disturbance, and also inflammatory changes in the blood (presence of leukocytosis with shift to the left, high rate of erythrocyte sedimentation).

Conclusions. In all clinical variants of the AOIP, signs of lymphadenitis were diagnosed. The study found that in perestasis in the inflammation process, submandibular, cheek and, much less frequently, parotid lymph nodes were involved, whereas in phlegmon in almost all patients, lymphadenopathy of all regional lymph nodes developed.

The state of masticatory muscle in most cases depended on the severity of the course of AOIP and on the localization of the inflammatory process, most often the violation of the muscles was noticed in phlegmons of the maxillofacial area.

Prospects for further research. In the future it is planned to investigate the changes in the lymphatic system of the body and the state of masticatory muscles during the course of acute purulent odontogenic inflammatory processes of the maxillofacial area, to correct and improve the treatment of complications in the postoperative period.

References

1. Bayrikov IM, Monakov AV. Klinicheskiy analiz zabolevaemosti odontogennymi flegmonami chelyustno-lycevoy oblasti po dannym otdeleniya chelyustno-lycevoi hirurgii klinik Samarskogo gosydarstvennogo medycunskogo yuniversiteta. Mezhdunarodnyy zhurnal prykladnykh i fyndamentalnykh isledovaniy. 2014;11:100-4. [in Russian].
2. Karpov SM. Pokazately vremennoy netrydoposobnosti y bolnuh z osrtymy odontogennymi vospalytel'nymi procesamy. Vestnic medicinskogo stomatologicheskogo instituta. 2009;1:15-7. [in Russian].
3. Porfiriadis M, Shulakov V. Obosnovanie imynomodeliruyuchey terapii pri v'yalotekykh odontogennykh flegmon. Vrach. 2010;7:72-4. [in Russian].
4. Christophorodo DYu, Karpov SM, Baturin VA, Gandylyan KS. Osobennosti techeniya sochetannoy chelyustno-lycevoy travmu. Institut stomatologiyi. 2013;2(59):59-61. [in Russian].
5. Ter-Asaturov GP. Nekotorye voprosy patogeneza odontogennykh flegmon. Stomatologiya. 2005;84(1):20-7. [in Russian].
6. Karakov KG, Khachatryan EE, Seiranidu ZA. Opyt klinicheskogo prymeneniya lazernoy fotodinamicheskoy sistemy v stomatologiyi. Parodontologiya. 2012;1:61-3. [in Russian].
7. Yahyaev SKh, Khadz EAS, Dolgova IN, Karpov SM. Osnovnyy prychny i rasprostran'yonnost' hronicheskikh bolyevykh sindromov sredey nevrologicheskikh bol'nykh. Mezhdunarodnyy nauchno-isledovatel'skiy zhurnal. 2013;10-5(17):39. [in Russian].
8. Mehra HS, Gupta S, Gupta H, Sinha V, Singh J. Chronic suppurative osteomyelitis of mandible: a case report. Craniomaxillofac Trauma Reconstr. 2013;6(3):197-200.
9. Karpov SM. Imynologicheskaya reaktivnost' y bolnuh z osrtymy odontogennymi vospalytel'nymi procesamy. Clinicheskaya neurologiya. 2009;2:3-5. [in Russian].

ГОСТРИ ОДОНТОГЕННИ ЗАПАЛЬНИ ЗАХВОРЮВАННЯ ЩЕЛЕПНО-ЛИЦЕВОЇ ДІЛЯНКИ. ВАРІАНТИ ПЕРЕБІГУ РІЗНИХ КЛІНІЧНИХ ФОРМ

Кручак Р. Ю., Ільницький Я. М.

Резюме. При всіх клінічних варіантах перебігу гострих одонтогенних запальних захворювань (ГОЗП) були виявлені ознаки регіонарного лімфаденіту. При періоститі та остеомієліті у процес були залучені під щелепові, щічні та рідше привушні лімфатичні вузли, у пацієнтів при флегмонах практично у всіх розвивалася лімфаденопатія всіх регіонарних лімфатичних вузлів.

Дослідження стану жувальної мускулатури у більшості випадків залежало від важкості перебігу ГОЗП, так і від залежності локалізації процесу, що найбільш було очевидно при флегмонах щелепно-лицевої ділянки. Проведене дослідження доводить, що синдром ураження м'яких тканин щелепно-лицевої ділянки при різноманітних клінічних варіантах перебігу ГОЗП у кількісному вимірі при періоститі та остеомієліті складав II стадію, при флегмоні – III стадію ураження.

Ключові слова: періостит, остеомієліт, флегмона, гострі одонтогенні запальні захворювання.

ОСТРЫЕ ОДОНТОГЕННЫЕ ВОСПАЛИТЕЛЬНЫЕ ЗАБОЛЕВАНИЯ ЧЕЛЮСТНО-ЛИЦЕВОЙ ОБЛАСТИ. ВАРИАНТЫ ТЕЧЕНИЯ РАЗЛИЧНЫХ КЛИНИЧЕСКИХ ФОРМ

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Резюме. При всех клинических вариантах течения острых одонтогенных воспалительных заболеваний (ООВЗ) были обнаружены признаки регионарного лимфаденита. При периостите и остеомиелите в процесс были вовлечены подчелюстные, щечные и реже околоушные лимфатические узлы, у пациентов при флегмонах практически у всех развивалась лимфаденопатия всех регионарных лимфатических узлов.

Исследование состояния жевательной мускулатуры в большинстве случаев зависело от тяжести течения ООВЗ, так и от зависимости локализации процесса, наиболее было очевидно при флегмонах челюстно-лицевой области. Проведенное исследование доказывает, что синдром поражения мягких тканей челюстно-лицевой области при различных клинических вариантах течения ООВЗ в количественном измерении при периостите и остеомиелите составлял II стадию, при флегмоне – III стадию поражения.

Ключевые слова: периостит, остеомиелит, флегмона, острые одонтогенные воспалительные заболевания.

ACUTE ODONTOGENIC INFLAMMATORY DISEASES OF MAXILLOFACIAL AREA. VARIANT OF THE COURSE OF DIFFERENT CLINICAL FORMS

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Abstract. In all clinical variants of the course of acute odontogenic inflammatory diseases (AOID), signs of regional lymphadenitis were revealed. In periostitis and osteomyelitis in the process were involved in the jaw, cheek and rarely parotid lymph nodes; in patients with phlegmons, in all patients, lymphadenopathy of all regional lymph nodes developed.

Investigating the state of masticatory muscle in most cases depended on the severity of the course of (AOID), and on the dependence of the localization of the process, which was most evident in phlegmons of the maxillofacial area. The conducted research proves that the syndrome of defeat of soft tissues of the maxillofacial area in various clinical variants of (AOID) in a quantitative measurement with periostitis and osteomyelitis was II stage, with phlegmon – stage III of the lesion.

Key words: periostitis, osteomyelitis, phlegmon, acute odontogenic inflammatory diseases.

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