

Відбувається посилена міграція імунокомпетентних клітин в інші органи, де відбувається подальша організація та формування нових клітинних популяцій.

*Перспективи подальших досліджень.* В наступних дослідженнях можливо визначення кореляційних зв'язків між такими параметрами органів, як абсолютна та відносна маса, товщина та довжина імунних і статевих органів.

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#### Резюме

##### ОПРЕДЕЛЕНИЕ КОРРЕЛЯЦИОННЫХ СВЯЗЕЙ МЕЖДУ ИММУННЫМИ И ВНУТРЕННИМИ ПОЛОВЫМИ ОРГАНАМИ КРЫС ПОСЛЕ ВОЗДЕЙСТВИЯ ЭЛЕКТРОМАГНИТНОГО ПОЛЯ И ВВЕДЕНИЯ РАСТВОРА ЭХИНАЦЕИ ПУРПУРНОЙ Шарапова Е.Н.

В данном исследовании определены корреляционные связи между морфологическими показателями органов иммунной и половой систем крыс, которые возникли после облучения животных электромагнитным полем высокого напряжения низкой частоты, после чего животные для предотвращения дегенеративных изменений в органах получали иммуномодулирующий раствор эхинацеи пурпурной.

**Ключевые слова:** вилочковая железа, селезенка, лимфатический узел, костный мозг, электромагнитное поле.

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##### DEFINITION OF CORRELATIONS BETWEEN IMMUNAL AND INNER REPRODUCTIVE ORGANS OF RATS AFTER THE INFLUENCE OF ELECTROMAGNETIC FIELD AND INJECTIONS OF ECHINACEA PURPUREA SOLUTION Sharapova E.N.

In the following investigation correlations between morphological indexes of the immune system's organs and reproductive system's organs of the rats are presented. Correlations appeared after radiation of the rats with high voltage low frequency electromagnetic field. After that, for preventing degenerative changes in the organs, rats have received the Echinacea purpurea solution.

**Key words:** thymus, spleen, lymphatic node, bone marrow, electromagnetic field.

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##### TOXIC OSTEOMYELITIS OF THE JAW ONES AGAINST THE BACKGROUNDS OF CHRONIC INTOXICATION

As the result of the growing number of people using synthetic drugs an increase in cases of atypical osteomyelitis of the bones of the facial skeleton has been observed lately. In our study we summarized diagnostic data and clinical data of this category of patients. There was a common clinical manifestation of chronic osteomyelitis. Patients often were treated in the department because of recurrent purulent necrotic process in jaws. To date, not solved the question of the extent of surgical intervention on the jaws in this pathology.

**Key words:** osteonecrosis, atypical osteomyelitis, phosphonocrosis, toxic necrosis of jaws.

Nowadays, drug addiction has become a real social evil worldwide. According to the Ukrainian Ministry of Health In Ukraine alone there were approximately 550,000 drug addicts under dispensary observation in 2009. Each year, the number of people constantly taking drugs, not only decreases, but increases by 5-10%. However, the statistics showing follow-up drug addicts reflects only the tip of the iceberg. As law enforcement officials say, the actual number of drug addicts is much higher than official figures show.

Individuals taking synthetic narcotic drugs, such as red phosphorus, may develop osteomyelitis of jaws. This medical condition is characterized by a heavy, aggressive, protracted clinical course not amenable to conventional treatment. This form of atypical osteomyelitis of jaw resembles phosphonocrosis of jaws observed in workers who were in direct contact with phosphorus – the medical condition widely described in the literature of the nineteenth century.

According to modern scholars dealing with the problem of the influence of drugs on the human body, possible consequences of their negative effects are as follows: profound suppression of metabolism of bone tissue, inhibition of vascular endothelial growth, strengthening of sclerosis, impaired hemostasis, development of immunodeficiency. The emergence of osteonecrosis in the jaw bones is primarily due to the increased probability of infection of the bone tissue during removal of teeth, jaw injury, the presence of tissue pathology in periodontal, periodontal, oral mucous membranes [6].

Osteonecrosis literally means bone death in Latin (“osteo” = bone and “necrosis” = death). Despite the increase in the number of cases of toxic necrosis of the jaw bones, their diagnosis continues to cause difficulties for dentists. This can be explained, on the one hand, by the desire of the drug dependent patients in every possible way to hide their drug addiction, not to mention it in the collection of anamnesis and, on the other hand, by the lack of knowledge about clinical features of toxic necrosis of jaws by the physicians themselves.

**The objective of work is** based on the study of clinical cases of toxic necrosis of the jaw bone in patients taking a drug containing red phosphorus «Perventin» - to show future specialists and dentists peculiarities of this medical condition.

**Materials and methods:** This case study is based on the results of the clinical observation of 48 patients aged 22 to 40 years with toxic necrosis of the jaw bones (28 of whom had a lesion of the mandible, 10 – lesions of the upper jaw, 10 – lesions of both jaws). All patients were observed in the maxillofacial department of Poltava Regional Clinical Hospital. However, only one patient had been referred to the department with the diagnosis "toxic osteomyelitis", 18 - were sent with a diagnosis of "malignancy", 20 - diagnosed with "the chronic odontogenic osteomyelitis", 2 - with the diagnosis: "pathological fracture of the mandible".

The plan of diagnostic measures along with general clinical research (survey, examination, clinical blood analysis and clinical urinalysis) included microbiological examination of discharge from sinus tracts/fistulous passages and necrotic areas, X-ray of jaw bones. The main reasons that made patients seek medical help were the presence of bad breath, tooth mobility, exposure of alveolar bone (subsidence of the gums), swelling and fistula of one half of the face, inability to fully bite and chew food (especially in patients with necrosis of the mandible); getting liquid foods into the nose, speech defects in the pronunciation of sounds - rhinolalia (in patients with necrosis of the maxillary bones). Other common manifestations, for example, fever, were not observed.

Duration of the disease from onset of the symptoms to the moment when the patients sought medical help ranged from 9 months to 2.5 years. Common to all patients with anamnestic indication was prolonged use of "Perventin". Necrosis of the jaw bones in the majority of our patients occurred against the background of severe disease: for example, 15 patients had hepatitis C, 5 - hepatitis B, 17 patients - chronic bronchitis, 12 - chronic renal failure.

During an **objective** examination of the oral cavity, our attention was drawn to the presence of the exposed area of the alveolar process that goes beyond the two or more teeth [1]. The color of the naked necrotic bone ranged from light brown, dirty-gray, yellowish-gray to dark brown. Mucous membrane surrounding the nude section of bone was usually pale or slightly hyperemic, painless on palpation. Granulation tissue in the exposed areas of the bone was absent. Moreover, all of our patients had painless infiltrates, abnormal tooth mobility and loss, poor healing of extraction wounds, permanent suppuration from multiple fistulae. Suppuration from the multiple fistulae (foto 2).

In general, blood tests of all of our patients are characterized by a tendency of the decrease in hemoglobin in an average of 85.5 g / l and red blood cells to  $3.0 \times 10^{12} / l$ , and an increased erythrocyte sedimentation rate 45 mm/h. The microbiological study of the discharge from the sinus tracts and necrotic areas provided the following results: staphylococcus had been seen in 100% of cases: (in 22 patients - aureococcus, in 13 – staphylococcus epidermidis), streptococcus was found in 5 patients, E. coli - in 4, Proteus and Pseudomonas aeruginosa – in 4 patients. Microflora was insensitive to most commonly used antibiotics.

X-ray examinations of our patients revealed various-sized areas of destruction of the jaw bone structures from limited to 2-3 teeth to the total necrosis of the lower or upper jaws (foto 1, 3), chaotic alternation of the areas of osteosclerosis with the areas of osteoporosis with high prevalence of the latter, absence of a pronounced demarcation of necrosis at edges [2]. During an x-ray examination of the patients with toxic necrosis of the mandible, two cases (foto 4) of spontaneous bone fracture were detected [5].



1. Total necrosis of the maxilla.



2. Plural fistulas.



3. Sequestration of the maxilla.



4. Pathological fracture of the mandible.

After our patients had been carefully examined, a comprehensive treatment was provided. It consisted in surgical removal of the underlying sequestered free fragments, antibacterial, detoxificative and immunocorrective therapy, in some cases compensating prostheses were manufactured and provided. At the same time what needs to be mentioned is that a stable remission was observed only in patients who had stopped taking drugs [3,4].

### Conclusion

Thus, osteonecrosis of the jaw in patients who use drugs containing red phosphorus, such as Perventin, is characterized by severe, protracted course, the diffuse nature, the rapid expansion process, the low efficiency of treatment and frequent relapses. Knowledge of the characteristics of the clinical course of toxic necrosis of jaws, in our opinion, will enable future dentists to carry out a more accurate diagnosis of the disease, choose the best methods of surgical treatment, general treatment and medical rehabilitation of patients.

The treatment of chronic periodontitis in this condition is to remove the causative tooth. When it is necessary to remove a tooth and reveal purulent focus at periostitis. When bone sequestration must remove all non-viable bone. Bone defects closed soft tissue. Our clinic does not recommend suturing the wounds for these patients.

Treatment of patients with inflammatory diseases of the facial bones in chronic addicts very long. The treatment requires the patient patience, time, accurate execution doctor's appointments, significant financial cost, and it is not always possible. The task is complex influence on the etiology and pathogenesis of the disease. Further analysis of the morphological changes in the bone tissue in the body in general, the presence of chronic intoxication.

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**Реферати**

**ТОКСИЧЕСКИЕ ОСТЕОМИЕЛИТЫ ЧЕЛЮСТЕЙ НА ФОНЕ ХРОНИЧЕСКОЙ ИНТОКСИКАЦИИ**

**Скикевич М.Г., Аветиков Д.С.**

В последнее время в связи с ростом числа лиц, употребляющих синтетические наркотические препараты, регистрируют рост заболеваемости атипичными остеомиелитами костей лицевого скелета. Изучены особенности клинического течения гнойно-воспалительных заболеваний тканей челюстно-лицевой области. Наблюдалась общность клинических проявлений хронического остеомиелита. Все пациенты неоднократно находились на лечении в отделении в связи с рецидивами гнойно-некротического процесса в челюстных костях. В работе обобщены данные о диагностике, клинической картине данной категории больных. На сегодняшний день не решен вопрос об объемах оперативных вмешательств на челюстях при данной патологии.

**Ключевые слова:** фосфорный некроз, остеонекроз, атипичный остеомиелит челюстей, хронический токсический остеомиелит челюстей.

**ТОКСИЧНИ ОСТЕОМІЄЛИТИ ЩЕЛЕП НА ТЛІ ХРОНІЧНОЇ ІНТОКСИКАЦІЇ**

**Скікевич М.Г., Аветіков Д.С.**

Останнім часом у зв'язку із зростанням числа осіб, що вживають синтетичні наркотичні препарати, реєструють зростання захворюваності атипичними остеомиелітами кісток лицевого скелету. Вивчено особливості клінічного перебігу гнійно-запальних захворювань тканин щелепно-лицевої ділянки. Спостерігалася спільність клінічних проявів хронічного остеомиєліту. Пацієнти неодноразово перебували на лікуванні у відділенні в зв'язку з рецидивами гнійно-некротичного процесу у щелепних кістках. У роботі узагальнені дані про діагностику, клінічну картину даної категорії хворих. На сьогоднішній день не вирішено питання про обсяги оперативних втручань на щелепах при даній патології.

**Ключові слова:** фосфорний некроз, остеонекроз, атипичний остеомиєліт щелеп, хронічний токсичний остеомиєліт щелеп.

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