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Research Article

EVALUATION OF THE EFFECTIVENESS OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS IN THE TREATMENT OF MAXILLARY ALVEOLITIS

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ABSTRACT

Alveolitis is one of the most frequent local complications of tooth extraction surgery, developing 2-4 days after extraction and characterized by impaired healing of the extraction site due to the destruction and/or absence of a clot, the addition of infection and the development of marked pain symptoms of varying severity [1, 2]. The prevalence of this complication is reported to be as high as 35% of possible postoperative problems (3, 5). Several other names for this pathological process - alveolar osteitis, "dry hole" - can be found in the ICD-10 and in the literature. For example, the work of J. Mamoun (2018) provides this description "the unscientific term 'dry socket' is the exposure of part or all of the bone within the socket or perimeter in the day or days after extraction due to the absence of an initial persistent blood clot or if the edges of the socket have not been covered by a layer of viable, dense, regenerating epithelium" [6]. According to clinical experience, these differences in terminology are directly related to the timing and severity of the inflammatory process. Several factors are considered to be the main causes leading to the development of this pathological condition in a dental extraction site: traumatic extraction of the tooth; inflammatory process in the periapical tissues; endodontic treatment and its complications such as fusion zone damage, root perforation; use of resorcinolinum treatment [7]. In addition, risk factors such as gender, smoking and use of oral contraceptives are also important.

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KEYWORDS

Alveolitis, odontogenic inflammatory diseases, anti-inflammatory drugs.

INTRODUCTION

Odontogenic inflammatory diseases are characterized by a pronounced sense of pain due to the peculiarities of the maxillofacial tissues, in particular abundant innervation and vascularization. The intensity of the sense of pain requires adequate analgesia not only for the surgical interventions required for the treatment of odontogenic inflammatory diseases, but also for the postoperative management of patients [10].

Severe pain increases the stress on almost all vital body systems. This is primarily a reaction of the autonomic system and the associated tachycardia, increased heart muscle work and oxygen consumption by the heart. Inadequate anaesthesia in the postoperative period can lead to disruption of respiratory, endocrine and immune system function, depletion of energy reserves and mental health, and significantly increases the risk of conditions such as respiratory distress syndrome, intestinal paresis and cardiovascular accidents[12].

One of the triggers of postoperative pain is the excitation of multiple peripheral nociceptors by mediators-algogens (prostaglandins, kinins) released during surgical trauma [13].

Peripheral analgesics - inhibitors of the above peripheral algogens - should therefore be an important component of pain management in various surgical areas. Naproxen is successfully used for pain relief in various fields of medicine due to its analgesic effect, which is comparable to that of tramadol.

However, the pronounced analgesic effect of naproxen is combined with side effects such as ulcerogenic effects on the gastrointestinal tract mucosa and inhibition of platelet aggregation, given which long-term use of the drug is not recommended. Newer, so-called selective non-steroidal anti-inflammatory drugs are being developed that have a powerful anti-inflammatory effect while having a less pronounced analgesic effect. An example of such drugs is aceclofenac, which is widely used in medicine [11].

The vast majority of studies on the therapeutic potential and safety of aceclofenac have been performed in individuals suffering from rheumatic diseases. However, we did not find any scientific studies on this drug in dental practice in the scientific literature.

In the available literature we found no information on the immunological activity of oral fluid during the use of non-steroidal anti-inflammatory drugs for the treatment of odontogenic inflammatory diseases.

PURPOSE OF THE STUDY

To improve the effectiveness of the treatment of maxillary alveolitis with the use of non-steroidal anti-inflammatory drugs.

MATERIALS AND METHODS OF RESEARCH

27 people with maxillary alveolitis and 17 healthy volunteers without serious concomitant somatic

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pathology and with a sanitized oral cavity were under observation and treatment. To conduct their own research patients with odontogenic inflammatory diseases were divided into 3 groups, randomised by age and sex, the examination of which was carried out by the same methods, but the set of drugs administered differed (Table 1). Group 4 was formed to analyse and evaluate the results of the laboratory immunological tests and consisted of healthy volunteers ('clean control').

Number of patients with odontogenic inflammatory diseases examined and their distribution into groups

	Group 1 (Mono-course of NSAIDs)	Group 2 (Consecutive course of NSAIDs)	Group No. 3 (Comparisons)
Alveolitis of the jaw	10	8	9

The criteria for selecting patients with odontogenic inflammatory diseases in one group or another were: the intensity of pain in the first hours after the surgical intervention, the nature of the accompanying somatic pathology. The criterion for selection of patients in group 1 was "low intensity" pain. The criterion for selection of patients to Group 2 was a feeling of pain of "moderate to high intensity": 4 to 10 points. Group 3 included patients with varying levels of pain

Group 1 were patients whose medical treatment included a mono-course of nonsteroidal anti-inflammatory drug (nimesulide). Group 1 consisted of 10 patients (5 men and 5 women) aged 18 to 60 years.

Group 2 - patients whose medical treatment included a consecutive course of non-steroidal anti-inflammatory drugs (ketorolacatromethamine, nimesulide). Group 2 consisted of 8 patients (4 male and 4 female) aged from 19 to 74 years (mean age 30,1 ± 0,76 years).

Group 3 were patients whose medical treatment excluded the use of non-steroidal anti-inflammatory drugs. Group 3 consisted of 9 patients (4 men and 5 women) aged 17-70 years.

Group 4 consisted of 18 healthy volunteers aged 20 to 27 years (mean age 23.2 ± 0.53).

The examination of the patients consisted of basic and additional methods of investigation. The basic examination methods were performed on the patients at the initial and each follow-up visit, and included a thorough history, external and intraoral examination.

The degree of inflammatory contracture of the masticatory muscles was determined according to the presence and character of mouth opening restriction. For subsequent analysis of the data obtained, each degree of inflammatory contracture was assigned a score equivalent to the degree value.

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"1" - mouth opening up to 3 cm - minor degree of inflammatory contracture - 1 point

"2" - mouth opening up to 2 cm - moderate degree of inflammatory contracture - 2 points

"3" - mouth opening up to 0.5 cm - pronounced degree of inflammatory contracture - 3 points.

During the intraoral examination, attention was paid to the condition of the mucosa: changes in colour, humidity of the mucosa, the presence of edema, ulcers or wounds, infiltrates, exudate. The level of hygiene, the nature of the relationship of the dental rows, the condition of the teeth, periodontal tissues were evaluated.

Additional methods of examination included radiological (X-ray and ultrasound) and laboratory tests.

Radiological methods of investigation were carried out on the day of initial treatment of patients in order to specify the diagnosis and differential diagnosis, and included intraoral radiography or orthopantomography.

Laboratory tests of the mixed saliva, were used to assess the indicators of the local immune protection factors of the oral cavity, both in the norm and as criteria for the effectiveness of the treatment carried out. Local immune protection factors were studied on the day of treatment and on the 7th day after the start of treatment.

Patients with odontogenic inflammatory diseases were carefully assessed for their sense of pain, both at the time of the initial examination prior to treatment and during the therapy phase. A Z-score developed by Prof. S. T. was used to assess the dynamics of pain. T. Sokhov.

1 point - the postoperative course is completely painless: within 2 hours, 4 hours, 6 hours, 12 hours, the first day, second day, third day, fourth day, fifth day after the dental intervention;

2 points - the postoperative course is slightly painful for - 2 hours, 4 hours, 6 hours, 12 hours, the first day, the second day, the third day, the fourth day, the fifth day after the dental treatment, which does not require additional medication and pain relief

3 points - the postoperative course is accompanied by significant pain for - 2 hours, 4 hours, 6 hours, 12 hours, the first day, the second day, the third day, the fourth day, the fifth day after the dental intervention, requiring additional medication and pain relief.

The examination of healthy volunteers was similar to that of patients with odontogenic inflammatory diseases and included collection of anamnesis, external and intraoral examination, and laboratory tests.

RESULTS OF THE RESEARCH

It was found out that the most significant and reliable decrease of clinical symptoms of inflammation in the course of treatment was registered at use of mono-course of NSAIDs ($P<0,05$), that proves its pronounced anti-inflammatory action. However, the most striking analgesic effect was registered when a consecutive course of NSAIDs (naproxen and aceclofenac) was used ($P<0.02$) . In our work, we found that the intensity of the feeling of pain differed depending on the nosology and period of the disease. For example, during the period of referral to the clinic, pain was most pronounced in patients diagnosed with alveolitis.

In an analysis of the sense of pain, we found that a reduction in pain intensity at the end of the treatment was recorded in each group of patients examined. By day 5 of follow-up, pain intensity was approximately

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equal in all groups, as indicated by the lack of significant differences at this time (P>0.05). However, the course and nature of pain manifestations in different pharmacological courses had significant differences, especially in the first postoperative hours, up to the first day of observation.

So, by the 4th observation hour in the group №1 the intensity of pain sense had not reliably decreased by 6,85 % (P>0,05), in the group №2 reliably decreased by 27,4% (P<0,05), in the comparison group reliable increase of pain sense intensity by 50% (P<0,001) was determined. At 6 and 12 hours of follow-up, pain intensity was significantly lower in the mono- and consecutive courses of NSAIDs than in the comparison group (P<0.0001; P<0.02).

It should be noted that the decrease in pain intensity during the use of naproxen was statistically significant in all cases, unlike during the use of acetylophenac, where the decrease in pain intensity was not statistically significant. The unreliable nature of changes in pain intensity between the periods of observation in patients using acetylophenac was due to a less pronounced analgesic effect of the latter. A significant reduction in pain intensity while using naproxen indicates a more pronounced analgesic effect of naproxen.

CONCLUSIONS

A mono-course of NSAIDs is therefore effective in controlling "low intensity" pain. A sequential course has an effective analgesic effect in cases of "moderate to severe" pain while using naproxen. With a switch to acetylophenac for high intensity pain, the analgesic effect weakens. The latter may justify prolonging the use of naproxen in cases of 'moderate to severe' pain.

REFERENCES

1. Azimov M. I., Shomurodov K.E. A technique for Cleft Palate Repair. Journal of research in health science. Vol. 1, No. 2, 2018, pp. 56-59.
2. DJuraev, A. M., & Khalimov, R. J. (2020). New methods for surgical treatment of perthes disease in children. International Journal of Psychosocial Rehabilitation, 24(2), 301-307.
3. Dzhuraev, A., Usmanov, Sh., Rakhmatullaev, H., & Khalimov, R. (2021). Our experience with surgical treatment of congenital elevation of the scapula in young children. Medicine and Innovations, 1(4), 37-44.
4. Dzhuraev, A. M., & Khalimov, R. D. (2012). Our experience in the surgical treatment of Perthes disease in children. Postgraduate Physician, 50(1.3), 377-383.
5. Dzhuraev, A., Usmanov, Sh., Rakhmatullaev, H., & Khalimov, R. (2021). Our experience with surgical treatment of congenital elevation of the scapula in young children. Medicine and Innovations, 1(4), 37-44.
6. Khodjieva D.T., Pulatov S.S., Khaidarova D.K. All about hemorrhagic stroke in elderly and senile persons (own observations) // Science of Young People (Eruditio Juvenium). 2015. №3. C. 87-96.
7. MI Kamalova, S Khaminov, B Eshboltaeva Morphometric features of bronchial epithelium development in rabbits in postnatal ontogenesis
8. Shomurodov. K.E. Features of cytokine balance in gingival fluid at odontogenicphlegmon of maxillofacial area. // Doctor-aspirant 2010.-42 Vol.-No.5.1.-P.187-192;
9. Ilkhomovna, K. M., Eriyigitovich, I. S., & Kadyrovich, K. N. (2020). Morphological Features Of Microvascular Tissue Of The Brain At Hemorrhagic Stroke. The American Journal of Medical Sciences and Pharmaceutical Research, 2(10), 53-59.

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10. Khodjieva D. T., Khaydarova D. K., Khaydarov N. K. Complex evaluation of clinical and instrumental data for justification of optive treatment activites in patients with resistant forms of epilepsy. American Journal of Research. USA. № 11-12, 2018. C.186-193.
11. Khodjieva D. T., Khaydarova D. K. Clinical and neuroph clinical and neurophysiological ch ogical characteristics of teristics of post-insular cognitive disorders and issues of therapy optimization. Central Asian Journal of Pediatrics. Dec.2019. P 82-86
12. Sadriddin Sayfullaevich Pulatov. (2022). Efficacy of ipidacrine in the recovery period of ischaemic stroke. World Bulletin of Public Health, 7, 28-32.
13. Tukhtarov B.E., Comparative assessment of the biological value of average daily diets in professional athletes of Uzbekistan. Gig. Sanit., 2010, 2, 65–67.