

PATIENTS IN CONDITIONS OF HOSPITAL AND PERSPECTIVES OF THEIR FURTHER IMPROVEMENT

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Summary: The aim of this research was to analyze of typical approaches of pain syndrome treatment connected with surgical procedures in maxillofacial area. The effectiveness of the most frequently used non-narcotic analgesics was studied depending on the nature of the pathological process in patients. Based on data from the literature and the results of their research, proposed new directions to improve medical treatment of pain.

Keywords: pain syndrome, antinociceptive system, surgical interference, maxilla-facial area, non-narcotic analgetics.

Introduction. Treating of the pain syndrome in surgical interventions is one of the actual problems of the modern medicine [12, 15, 17]. Despite the growing interest in the diagnosis of pain and its treatment, a significant expansion of analgesics arsenal, quality of postoperative analgesia is often unsatisfactory [12, 10]. It was established that late eliminated postoperative pain is the cause of stress reactions in the organism, evokes an unfavorable postoperative period [4, 7, 11, 17]. Lack of nociceptive afferent impulses flow block causes considerable tension (failures) of regulatory mechanisms in patients [4, 18]. Expectation of the pain is often accompanied by anxiety and depression, somatic symptoms, worsening of the life quality that prolongs postoperative rehabilitation [2, 6]. Therefore, it is expedient to direct the physician's efforts not on the emergency elimination of pathological reaction on pain, but prevent it. It's obvious that successful postoperative analgesia is necessary not only to choose an effective analgesic agent, but also the most appropriate

method of its application. Rapid elimination of postoperative pain can reduce the number of postoperative complications, reduces the time of hospitalization and treatment costs [9, 17].

It is known that peculiarity of maxillofacial area tissues is complicated structure of sensitive innervations. Most surgical diseases of the maxillofacial area are usually accompanied by severe clinical pain symptoms and require adequate anesthesia not only for the surgical treatment, but also in the postoperative management of patients. Therefore, considerable scientific and practical interest is the study of the therapeutic effectiveness of the most common surgical dental practice analgesics in the treatment of pain in patients after performed surgery.

Purpose. Based on a retrospective analysis of medical cards of patients treated in the Department of Maxillofacial Surgery Lviv Regional Hospital, to establish common approaches in the treatment of pain during intra - and postoperative period, to evaluate the effectiveness of the applied drug schemes of analgesia. Relying on the results of own

observations identify new approaches of their improving.

Object and methods. To achieve this goal we conducted a retrospective analysis of 950 medical of patients that underwent surgical treatment in the department of Maxillofacial surgery of Lviv Regional Hospital during the period from 2012 to 2014. In particular, for the review were selected medical records for basic nosologies: acute purulent inflammation - 320 cases, impacted wisdom teeth - 170 cases, traumatic injuries of the facial skeleton - 250 cases, benign tumors of the jaws - 210 cases. During the study of medical cards main attention was drawn to the applied drug schemes of pain treatment at the time of pain occurrence in patients after operations and on its intensity. Assignments were focused on doses, methods and multiplicity of inputting of specific analgesics and adjuvants - drugs that potentiate the therapeutic effect of analgesics [15]. The duration of their administration to patients was calculated.

To evaluate the effectiveness of new processed medication schemes of analgesic therapy, comparing with traditional, testing was conducted on 75 surgical dental patients, which underwent operations of atypical removal of the wisdom lower third molars. Obtained results compared with those of patients (60 males) with traditional treatment. Selecting of this operation to analyze the different ways of pain treatment caused by the fact that operation volume and level of trauma in the vast majority of patients are the same. Early postoperative period is accompanied by severe inflammatory reaction and intense pain symptoms in patients.

Results and discussion. The study of medical appointments revealed that further the most common premedication scheme of patients' preparation for the surgical dental procedures under local anesthesia is the combined use of Analgin and Dimedrol - in 69% of cases. Narcotic analgesic Promedol was used for the drug analgosedation in 23% of patients during their preparation for emergency and routine dental operations - this was so in all cases where surgery was performed under general anesthesia in 14% and 9% of patients in which operations were performed under local potentiated anesthesia. Only in 8% of patients with different nosology during the sedation new analgesics with central mechanism of action on nociceptive system Nefopam was appointed (Fig. 1). To reinforce the effect of narcotic and non-narcotic analgesics and achieving of sedation in patients traditionally administered Dimedrol (79% of cases), and in 25% of patients for elimination psychological and emotional tension - Sibazon. Among other drugs, adjuvant to analgesics, which were administrated in postoperative period in the medical cards were recorded: Dexamethasone (28% of cases), Traumeel - S (17% of cases), Gabapentin (4% of cases). Usage of the last one has been successful in the treatment of neuropathic component of pain. In the postoperative period when pain appeared Ketorolac was usually administered - in 42% of cases. Also, often was applied Ketoprofen (35% of cases). When treating patients with traumatic injuries of the facial bones and acute inflammatory processes superiority was attached to Diclofenac - 23% of cases (Fig. 1).

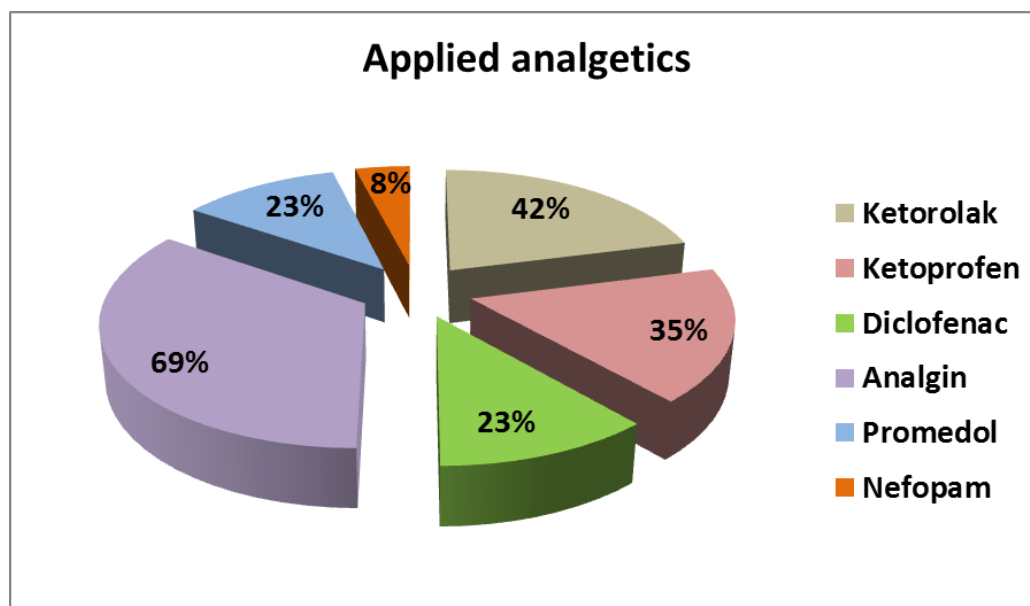


Figure 1. Frequency of analgesics appointments in the Maxillofacial clinic for the investigated period

Thus, the most common in the maxillofacial clinic remains following scheme of combination analgesics and adjuvants: Analgin with Dimedrol administered for sedation of patients, and by special indications - Sibazon is added (symptoms of emotional stress). After operations under the local potentiated anesthesia when manifestations of pain take place Ketoprofen or Ketorolac are applied. To reduce the inflammatory reaction hyperergic patients received Dexamethasone, to enhance the action of these drugs - Traumeel - S.

We revealed that the largest patients with purulent inflammatory diseases formed the largest group (11 %), which took Ketorolac during the longest period – up to 10 days, for the odontogenic phlegmons, acute osteomyelitis of the maxillofacial area treatment. Duration of analgesia therapy in traumatic patients depends on their general condition. In particular, 7% of patients with traumatic fractures of the facial skull with moderate severity condition the pain syndrome was completely eliminated during 10day of treatment, 56% of patients - during

7 days, and - 22% of cases – during 5 days. In mild trauma (fractures of the alveolar process, after reduction of temporomandibular joints dislocation etc) pain was eliminated during three days. In patients after removal the wisdom teeth and benign jaw bones tumors (radicular and follicular cysts, odontomas) pain often disappears on the 5th day of post-operative treatment.

Until now it was believed that the intensity and duration of postoperative pain symptoms depends on the type of pain perception in patients with traumatic performed surgery and the nature of the pathological process. According to modern ideas about the mechanisms of pain, any surgical trauma can cause long-term and sustainable changes in segmental and suprasegmental structures nociceptive (central and peripheral sensitization) functions, resulting in development of hyperalgesia, manifested by the formation of intense pain and an increasing needs for analgesics [4, 8, 9, 12]. Traditional methods of surgical pain treatment in most cases provide empirical appointment analgesics

based on the personal experience of the doctor, his awareness in modern medications. Identified approaches, we believe, have serious drawbacks. The basic is "secondary" postoperative analgesia to those already developed pain, based on a surgical trauma induced by hyperactivation of nociceptive structures of the central nervous system [1, 9, 12, 18, 19]. Obviously, the quality of postoperative analgesia using such tactics of treatment do not meet contemporary requirements of anesthesia. To solve the problem of postoperative analgesia adequacy only when realizing the following concepts in clinic: 1. The concept of preventive analgesia and 2. Concept of multimodal analgesia [8, 12, 17, 20]. The concept of preventive analgesia is to prevent the development of post-operative pain and minimize its intensity, starting therapeutic measures (analgesic therapy) before the surgery. The concept of multimodal analgesia involves the simultaneous appointment of two or more analgesics and / or methods of anesthesia that have different mechanisms of action can achieve adequate analgesia with minimal side effects. Currently, these methods of analgesia are of the top priority when choosing a method of postoperative anesthesia based on appointment of non-opioid analgesics to patients with pain of high intensity combined with the usage of opioid analgesics [7, 8, 12, 20].

To activate anti-nociceptive structures of the central nervous system that regulate the conduction of nociceptive impulses, a variety of medicinal agents can be used. To solve this problem, we have developed and tested in clinic several schemes of analgesia stimulation using modern narcotic and non-narcotic analgesics that affect the central structure autoanalgesia: Nalbufin, Infulhan Nefopam. Furthermore, the assessing the efficacy preventive Nefopam injection in combination with non-steroidal anti-

inflammatory Xefokam and Dalargin - synthetic analogue of D - Leucine - enkephalin was done. According to the literature data, preventive intravenous injection of Dalargin increases resistance to the injury, provides stress-limiting effect [16]. Xefokam (Lornoxikam) - a drug with expressed analgesic effect close to opiates. Established that it actively stimulates the production of endorphins and dynorphin that is physiological way of pain syndromes elimination of intensity and localization [3, 13]. This analgesic even in large doses has no opiate-like depressive effect on the central nervous system, does not cause drowsiness, respiratory disorders and addiction. A pronounced inhibition of cyclooxygenase and simultaneously active stimulation of endogenous antinociceptive system makes Xefokam one of the most effective and safe contemporary analgesics, that was confirmed during numerous clinical studies, including placebo-controlled researches in many European clinics [1, 3, 7, 13].

In 75 scheduled surgical dental patients, who underwent operations of atypical removal of impacted lower third molars the application of two schemes of pain treatment was conducted. Patients were divided into two groups. The first group - 35 patients that during premedication were administered intramuscularly 10 mg of Nalbufin - opioid analgesic of agonist-antagonist opioid receptors. Immediately after the operation patients received 100 ml Infulhan (Paracetamol) by intravenous injection, which commits an analgesic and antipyretic effect. Paracetamol blocks cyclooxygenase (COX) I and II, mainly in the central nervous system, affecting the pain centers and thermoregulation [10]. In the second group (40 patients) for activation of antinociceptive system (opiate-ergic component) and providing stress protection during the three days before the surgery,

patients was administered 1 mg of Dalargin endonasally by electrophoresis. During premedication we tested Nefopam (Acupan) - a drug with a strong and fast-acting analgesic effect. It inhibits the reuptake of Dopamine, Norepinephrine, Serotonin at synapses of pain centers of the brain. In contrast to narcotic analgesics Nefopam does not inhibit respiration and peristalsism does not cause habituation [5, 14, 21, 22]. It is appointed intramuscularly per 20 mg. Immediately after surgery, all patients of the group were administered preventively intravenous injections of Xefokam (Lornoksikam) - 8 mg and Dalargin (was injected intravenously - 1

mg.). Obtained results were compared with two control groups of patients (30 persons in each), which followed the traditional schemes of treatment - during premedication intramuscular injections of Analgin or Promedol were used and, in the postoperative period, with the appearance of pain Ketorolac or Ketoprofen were administered. Lasting of pain postoperative syndrome was calculated. Comparative evaluation of the results is shown in Figure 2.

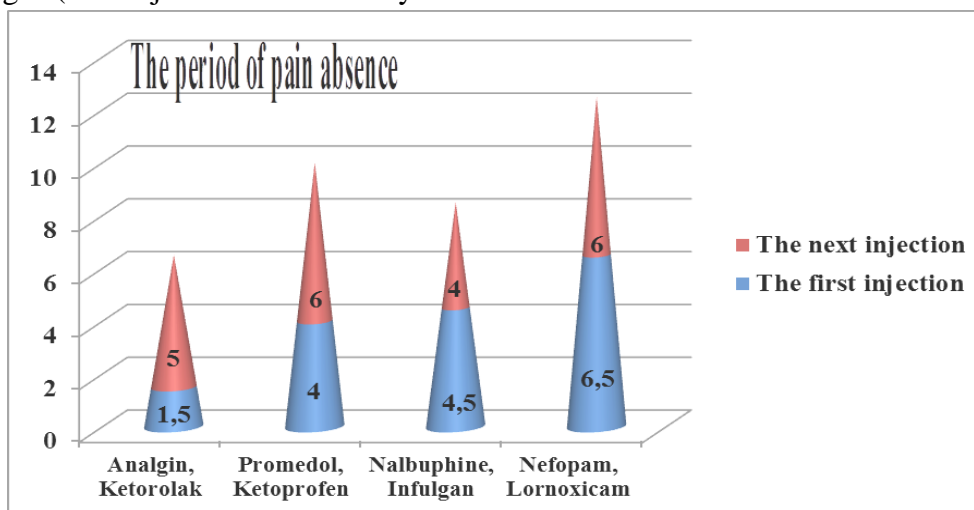


Figure 2. The appearance of pain syndrome in patients after planned operations of atypical removal of impacted lower teeth at different schemes of analgesia

The inclusion of non-narcotic analgesics into the premedication schemes with exposure to the central control structures of pain - Nefopam or opioids: Promedol, Nalbufin that facilitate the occurrence of postoperative period - lower perceptual component of pain and reduce the severity of stress-response of the organism on the injury. Established that the strongest analgesic effect is observed in patients in an attempt to prevent the formation of peripheral and central sensitization (hyperalgesia) in the combined use of analgesics with the central

mechanism of action and inhibition of prostaglandins (Infulhan, Xefokam) and adjuvant Dalargin with subsequent injection of the preventive mode. Postoperative using of the non-steroid anti-inflammatory agents as a method of "preventive" analgesia increases the duration of analgesics - from 4.5 to 6.5 hours, which are injected in comparison with the use of typical schemes of analgesia (Fig. 2).

Conclusions. Revealed methods of postoperative pain syndrome treatment, used in stationary surgical dental patients are based on traditional approaches. Still remains a significant percentage of long-term use of non-narcotic analgesics in operated patients because of resistant pain. The introduction into clinical practice new methods of postoperative analgesia, differentiated

application of systemic analgesics and adjuvants will enhance the effectiveness and quality of analgesia, reduce the number of complications associated with postoperative pain and time their treatment.

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