

Therapy of Postoperative Pain in Ambulatory Dental Practice

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Annotation: An integral part of postoperative pain therapy is adequate. Widespread use of NSAIDs - the modern trend of postoperative analgesia. A large number of study to assess the efficacy and safety of ketorolac (ketorol) and nimesulide (Niza).

Keywords: postoperative pain, NSAIDs, tooth, dental practice, medicine.

The official definition of the International Association for the Study of Pain characterizes pain as "an unpleasant physical and emotional sensation caused by real or potential tissue damage, as well as a description of such damage."

In daily work, the dentist prescribes pharmacological drugs to patients with various diseases or after endodontic, surgical interventions accompanied by the presence of acute pain and edema. Of course, in the treatment of a disease accompanied by pain, an etiopathogenetic approach is necessary. However, a successful result will be if rational anesthesia is used in the complex therapy of the disease.

Topographically, the maxillofacial region is characterized by abundant development of blood supply and innervation, which causes a pronounced edema and pain reaction. In such a clinical situation, an adequate analgesic and anti-inflammatory effect can be achieved by using NSAIDs.

Pain is a protective reaction to tissue damage. Postoperative pain is the result of surgical treatment of various dental diseases and refers to acute pain. Acute pain is felt by the patient immediately after surgery for up to 5 days.

Activation of nociceptors of tissues damaged due to surgical manipulations plays a role in the formation of postoperative pain. Next, the afferent transmission of nociceptive impulses along the C and A-delta fibers of the trigeminal nerve to the brain stem is carried out. The interaction of fast-conducting (myelin A-delta fibers) and slow-conducting (non-myelin C fibers) leads to pulse modulation at the synapse level of the primary afferent neuron and intermediate ascending neuron. After modulation, nociceptive impulses are transmitted along the thalamocortical pathway, while a subjective emotional sensation is formed, perceived as pain.

The described pathophysiological processes can lead to the formation of a zone of primary hyperalgesia at the site of the surgical wound, and then secondary hyperalgesia around the injury zone and at a distance from it. In the occurrence of primary hyperalgesia, bradykinin, prostaglandin of great importance E₂, which can have an effect on nociceptors and stimulate the synthesis of inflammatory mediators. Secondary hyperalgesia develops when the central mechanisms of sensitization of nociceptive neurons are activated. In particular, their excitability, spontaneous electrical activity and sensitivity to mechanical stimulation increase.

The postoperative period from the patient's point of view is characterized by the intensity of pain, swelling of soft tissues, and from the objective side - the severity of metabolic, hormonal, respiratory and other disorders. Untreated pain syndrome means not only physical and emotional suffering, but also serious violations of homeostasis.

The purpose of postoperative anesthesia is to eliminate or reduce pain and associated discomfort.

General principles of drug therapy for pain:

- a) the use of a single tactic for the treatment of pain syndromes, taking into account the severity of the analgesic effect of drugs;
- b) treatment should be etiopathogenetic, not symptomatic;
- c) the prescribed analgesic should be adequate to the intensity of pain and safe for the patient;
- d) monotherapy with narcotic analgesics of any pain syndromes should not be used.

Currently, there are several main methods of postoperative anesthesia: the use of opioids, patient-controlled analgesia, epidural anesthesia, the use of NSAID drugs.

The use of opioids has significant disadvantages: respiratory depression, central nervous system depression, vomiting, the development of addiction and dependence, problems of accounting for narcotic analgesics, special storage conditions, use.

The most significant group of drugs used as analgesics are nonsteroidal anti-inflammatory drugs. It is advisable to start antinociceptive protection of the body at the preoperative stage with the use of allogen inhibitors. This role is performed by NSAIDs, which reduce the sensitization of pain receptors and, thus, reduce the pain flow to the segmental structures of the spinal cord.

All NSAIDs have a common mechanism of action, which consists in suppressing the activity of cyclooxygenase (COX), which converts arachidonic acid into prostaglandins. NSAID selection is carried out empirically, based on the properties of the drug. The frequency of NSAID intake depends on the pharmacokinetics of the drug. The analgesic effect is directly proportional to the amount of a single and daily dose.

Most NSAIDs are prescribed 3-4 times a day (short-acting drugs: ketorolac, ibuprofen, ketoprofen, sodium salicylate, diclofenac sodium). A number of drugs are prescribed 1-2 times a day (naproxen, piroxicam, sulindac, relifex, xefocam).

One of the first NSAID, which has an effect mainly on COX-2, was nimesulide (naiz), which was developed in 1985. Its appearance was accompanied by a number of studies in the treatment of various diseases. Nimesulide is available in tablets of 100 mg, belongs to the class of sulfonanilides. The pharmacological effect of the drug is associated with the inhibition of COX-2, suppression of platelet activation factor, tumor necrosis factor alpha, proteinases and histamine.

Ketorolac trometamine (ketorol) from the group of pyrolic acid belongs to non-selective NSAIDs, but is noticeably distinguished by its analgesic activity.

Contraindications to use: hypersensitivity, allergic reactions, hemorrhagic diathesis, violation of the blood coagulation system, bleeding in the postoperative period, active gastric ulcer or duodenal ulcer, renal or hepatic insufficiency, acute cerebrovascular accident, childhood (up to 16 years), pregnancy. Regarding the safety of NSAID use, it should be noted that the course of treatment of acute pain is short-lived.

NSAIDs are used in the complex treatment of various inflammatory diseases and in the postoperative period.

In outpatient surgical interventions (tooth extraction, periostotomy, pericoronotomy, cystectomy, opening of an abscess, removal of benign soft tissue formation, etc.), adequate anesthesia is achieved by using non-narcotic analgesics in medium or higher therapeutic doses. A feature of the tissues of the face and neck is their abundant blood supply and innervation, so many odontogenic diseases, postoperative conditions are accompanied by severe pain syndrome, swelling of soft tissues.

Every doctor should be able to provide effective anesthesia in the postoperative period, this not only creates a positive dynamics of the course of the postoperative period, but also reduces the frequency of complications and chronic pain syndromes. Uncoupled postoperative pain may be the cause of unsatisfactory results of surgical treatment of patients. Adequate therapy of postoperative pain is an integral part of the treatment of patients.

Current trends in postoperative analgesia: the increasing use of NSAID, which are the basis of multimodal analgesia, i.e. the simultaneous administration of several drugs and methods of analgesia that can affect various mechanisms of pain syndrome formation, using minimal doses and minimizing the risk of side effects.

References:

1. Bazikyan E.A., Ignatovich V.V. Evaluation of the effectiveness of ketorol and naiza in the clinical practice of surgical dentistry// Dentistry. - 2005. - No. 3. - pp. 49-50.
2. Атаджанова Б. Т. Педагогические Условия И Принципы Формирования Профессионально-Коммуникативной Компетентности Будущего Инженера //Central asian journal of literature, philosophy and culture. – 2021. – Т. 2. – №. 11. – С. 93-97.

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3. Bezrukov V.M. Ketanov can prolong anesthesia during dental manipulations// Dentistry. -2003. - No.4. - pp. 30-33.
 4. Dzhappuev M. The use of ketorol in the postoperative period in surgical patients// Doctor. - 2008. - No.4. - pp. 40-42.
 5. Luchikhin L.A., Gospodar M.A., Kononova N.A., Aksenova O.V. The use of ketorol in ENT-practice// Vestn. otorhinolaryngology. - 2004. - No. 5. - pp. 42-45.
 6. Olmedo M.V., Galvez R., Vallecillo M. Double-blind parallel comparison of multiple doses of ketorolac, ketoprofen and placebo administered orally to patients with postoperative dental pain// Pain. - 2001. - Vol. 90. - P. 135-141.