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RATIONAL USE OF NARCOTIC ANALGESICS, ANESTHETICS AND LOCAL ANESTHETICS IN PAIN SYNDROME.

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Abstract: This article provides detailed information on the use of narcotic analgesics used in severe pain syndromes, mechanisms of action, how to use them, and how and in what amount to take them. In addition, this article provides detailed information about the rational use of anesthetics and local anesthetics.

Key words: analgesics, narcosis, pain, syndrome, local anesthetics, anesthetics, narcotic analgesics, nonnarcotic analgesics

Analgesic drugs are drugs that eliminate or reduce the sensation of pain. These include drugs with different chemical structure and mechanism of action.

Pain-reducing drugs (analgesics) take the main place among painkillers by affecting the nervous system. Narcotic analgesics and non-narcotic analgesics are distinguished. Narcotic analgesics include morphine and its synthetic substitutes (promedol, fentanyl, etc.).

Narcotic analgesics relieve various pains, including injuries, burns, severe pain that occurs in myocardial infarction. Morphine affects the central nervous system, sharpens hearing, fear, and tactile senses, and causes specific hallucinations. It suppresses the negative emotions associated with pain (panic, excitement, sadness, etc.) and creates a sense of security, relief, and calmness.

When narcotic analgesics are taken repeatedly, a person gets used to them and becomes addicted to them, which can cause drug addiction. Therefore, narcotic analgesics are strictly calculated and given in limited quantities. It is forbidden to take narcotic analgesics without a doctor's permission.

Non-narcotic analgesics include synthetic substances with different chemical structures (amidopyrin, analgin, acetylsalicylic acid, paracetamol, etc.). These analgesics have a weaker pain-relieving effect than narcotic analgesics, and are mainly used for neuralgia-like pain, myalgia for muscle inflammation, toothache and headache, and arthralgia. Non-narcotic analgesics can relieve pain as well as reduce fever (see Antipyretics). Many non-narcotic analgesics also have an anti-inflammatory effect (see Anti-inflammatory drugs). Do not take these medicines without a doctor's permission.

A number of drugs that do not belong to the group of analgesics can also cause pain. For example, drugs that relax smooth muscles - atropine, bangidevon drugs, papaverine, no-spalar, etc. are vasodilator drugs used in spasm of blood vessels.

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Analgesic drugs are divided into non-opioid, combined (including non-opioid and opioid components) and opioid. An important additional element of analgesic pharmacotherapy is adjuvant and symptomatic agents used according to appropriate indications, increasing the effectiveness of therapy and leveling or preventing its side effects. All non-opioid analgesics are non-narcotic and are available freely at pharmacies or with a regular doctor's prescription. Among opioid analgesics, most belong to the category of narcotic drugs, which are subject to special rules for recording, prescribing, prescribing, dispensing, and reporting. Some opioids are not classified as narcotic drugs due to their low narcotic potential, i.e. the ability to cause addiction (mental dependence) and are among the "potent" ones, the system of working with which is simpler. These features are important for the correct prescription, prescription and medical use of analgesic drugs.

An important condition for the effectiveness and safety of systemic pharmacotherapy of acute and chronic pain is knowledge by doctors not only of its clinical foundations, but also of the rules for working with potent and narcotic drugs established by the relevant normative and regulatory documents, orders of the Ministry of Health and Social Development of the Russian Federation, available to the administration of each licensed medical institution the right to participate in the legal (medical) trafficking of drugs and other state-controlled drugs.

1. Non-opioid analgesics

Non-opioid analgesics (Table 1 - paragraphs 1.1, 1.2, 1.3, 1.4, 1.5) include drugs of five pharmacological groups: NSAIDs, selective cyclooxygenase-2 (COX-2) inhibitors, pyrazolone derivatives, paraacetaminophenol derivatives and flupirtine.

Non-opioid analgesics are non-narcotic drugs. Available without a prescription (except for flupirtine). However, this does not mean that they are completely safe and can be used uncontrolled. When prescribing a patient any of the non-opioid analgesics of different pharmacological groups, it is necessary to inform him about the danger of exceeding the recommended doses, since all of these drugs have certain side effects. Flupirtine is available with a regular doctor's prescription. If the prescribed non-opioid analgesic is ineffective at the maximum recommended dose, the patient should consult a doctor to adjust therapy, and not exceed the dose.

All non-opioid analgesics have limited analgesic activity and are not able to eliminate severe pain, but may reduce pain and reduce the need for opioids.

2. Combined analgesics

For the treatment of CHD of various etiologies, combination drugs based on paracetamol in combination with small narcotologically safe doses of weak opioid analgesics - codeine or tramadol - are of particular interest. These combination drugs are more effective than paracetamol in its pure form and are not classified as narcotic drugs.

The combination of paracetamol (500 mg), codeine (8 mg) and caffeine (30 mg) improves the quality of analgesia achieved with the isolated use of the same dose of paracetamol. The drug is presented in the form of tablets and soluble tablets. A single dose is 1–2 tablets (0.5–1.0 g per paracetamol), a daily dose is up to 6–8 tablets (maximum 4 g paracetamol, 64 mg codeine and 240 mg caffeine).

A combined drug in tablets for oral administration, including safe doses of paracetamol (325 mg) and tramadol (37.5 mg). The first ensures a rapid onset of the analgesic effect, the second enhances and prolongs it. A single dose of a combination of paracetamol and tramadol is 1-2 tablets (maximum 650 mg of paracetamol and 75 mg of tramadol), a daily dose is a maximum of 8 tablets

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(2600 mg of paracetamol and 300 mg of tramadol). In patients over 75 years of age, the interval between taking single doses of an analgesic should be at least 8 hours. The drug is effective in acute and chronic pain syndromes of moderate intensity of various origins, as evidenced by world literature data and the results of using a combination of paracetamol and tramadol in outpatient medical institutions in Russia in more than 10 thousand patients with different types of pain. Contraindications to the use of the drug are liver and respiratory failure, epilepsy, pregnancy, breastfeeding, simultaneous intake of alcohol (increases the toxic effect on the liver), sedatives, drugs containing paracetamol and tramadol. It is classified as a means subject to subject-quantitative accounting and is prescribed by a doctor on a prescription form form 148-1/u-88 with the stamp of the medical institution "For prescriptions". The conditions for issuing funds from this group to preferential categories of citizens are determined by the new Order of the Ministry of Health and Social Development of the Russian Federation No. 110 dated February 12, 2007.

3. Opioid analgesics

Opioid analgesics (Table 2) are the main treatment for pain syndromes of moderate and high intensity in various fields of medicine. Their analgesic effect is significantly superior to all known non-opioid analgesics. Opioid analgesics have a central mechanism of action, which is realized through interaction with opioid receptors in different parts of the central nervous system.

The class of modern opioid analgesics includes agents with varying analgesic activity and a different range of other additional properties, which is of great importance for the correct choice of opioid in specific clinical situations. The differences in properties between different opioids are due to their different relationships with opioid receptors:

a) affinity for a certain type of receptor (m-; k-; s-receptors);

b) the degree of binding to the receptor (strength and duration of the effect);

c) competitive ability (antagonism) to a certain type of receptor.

In accordance with this, opioids can be agonists or antagonists of certain receptors, which determines the spectrum of properties inherent in each opioid.

Of main clinical importance are opioid m-receptor agonists - true narcotics (morphine, fentanyl, trimeperidine, etc.) drugs with morphine-like properties, since they have the most powerful analgesic effect. It is fundamentally important that opioid receptors are nonspecific, and when they are activated by an opioid analgesic, not only analgesia develops, but also a number of side effects, including dangerous ones (depression of breathing and consciousness, nausea, vomiting, impaired motor skills of the PC, urinary and biliary tract, weakness, dizziness, sometimes mental disorientation, hallucinations). Along with the typical opioid agonists listed, there is only one drug that belongs to the category of partial opioid agonists of m-receptors - buprenorphine. This strong opioid is somewhat inferior to morphine in its analgesic effect, has a less pronounced dose-dependent depressive effect on the central nervous system and a lower potential for tolerance and dependence than morphine. As a partial agonist, buprenorphine, unlike morphine and its analogues, has a so-called ceiling effect, i.e. When a certain dose is reached, analgesia and central depression stop increasing. Buprenorphine also has k-receptor agonist properties, so it is also classified as an agonist-antagonist. In Russia it is classified as a narcotic drug.

Compliance with the rules for the clinical use of narcotic analgesics is a necessary condition for preventing possible complications.

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K-receptor agonists (butorphanol, nalbuphine) have a slightly different range of properties: less pronounced analgesia than m-receptor agonists, significant sedation (drowsiness), mild respiratory depression and other side effects characteristic of morphine-like drugs. An important distinctive feature of k-receptor agonists is their antagonism towards m-receptors, therefore they are both antagonists of morphine and its analogues and belong to the category of mixed agonists-antagonists. The combined use of an m-agonist opioid and a mixed agonist-antagonist is unacceptable.

The properties of s-receptor agonists are possessed by the phencyclidine derivative ketamine and the k-receptor agonist butorphanol. In addition to moderate analgesia, they can cause dose-dependent activation of blood circulation (arterial hypertension, tachycardia), psychomotor agitation, euphoria, and hallucinations.

Opioids of different groups also differ in the degree of expression of such specific properties as the ability to cause tolerance and dependence.

Tolerance, i.e. Resistance to opioid analgesia is associated with the “addiction” of receptors to the applied dose of opioid and a decrease in the analgesic effect during long-term therapy (for morphine, tolerance begins to appear after 2–3 weeks), which requires a gradual increase in the analgesic dose of the opioid.

Drug dependence (physical and/or mental) can develop at different times from the start of therapy. Physical dependence manifests itself upon sudden cessation of drug use by a characteristic withdrawal syndrome (psychomotor agitation, chills, cramping abdominal pain, nausea, vomiting, drooling, etc.) and requires special therapy. Mental dependence (addiction or drug addiction) is characterized by an irresistible psychological need to obtain a drug (even in the absence of pain) in order to avoid severe emotional experiences and severe discomfort when stopping taking the drug.

The ability to cause addiction (narcogenic potential) is expressed differently in opioids of different groups. Some opioids (tramadol, butorphanol, nalbuphine), due to their minimal narcotic potential, are not classified as narcotic drugs and are classified as potent drugs (Table 2, paragraph 1), subject to subject-quantitative accounting, with less strict regulations, unlike drugs.

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