USE OF NARCOTIC ANALGESICS

Umarova Mahfuza Mirzakarimovna

Assistant of the Department of Pharmacological Sciences, ASMI

Abstract: *The article describes some narcotic analgesics and their chemical composition, biological effects.*

Keywords: *pain, narcotic analgesics, Morphine, promedol, Sufentanil, opioid.*

Pain is a subjective unpleasant sensation caused by the threat of damage or tissue damage, accompanied by a change in the motor, autonomic and emotional spheres of the body to protect against damage (according to a publication in the journal Pain from 1979).

Narcotic analgesics are substances of plant and synthetic origin that selectively suppress the perception of pain, increase pain tolerance, reduce the emotional coloring and vegetative accompaniment of pain, and cause drug dependence.

Narcotic analgesics by origin are divided into: natural, derived from opium - morphine, codeine, omnopon; synthetic - trimeperidine hydrochloride (promedol), fentanyl, pentazocine (lexir, fortral), pyritramid (dipidolor), tramadol (tramal).

Painkillers isolated from opium are called opiates, and synthetic substitutes are called opioids or opiate-like drugs.

The most powerful narcotic analgesic is sufentanil, which is 500 times more powerful than morphine.

In medicine, narcotic analgesics are used to relieve pain, and are also used in general anesthesia, in preparation for surgery and as sedatives. They are sometimes used to synchronize a patient with a ventilator.

Narcotic analgesics belong to the class of potent substances, so their medical use is strictly limited.

The mechanism of action of narcotic analgesics is aimed at activating opiate receptors, after which the following action is observed:

• the body's response to pain decreases;

• increases the body's resistance to pain;

• the feeling of fear decreases, emotional excitement decreases.

The mechanism of action of opioid analgesics - changes in the central nervous system:

• Depression of the central nervous system.

• Excitation of the central nervous system.

• Mental changes.

Spasm occurs on the part of smooth muscles, which leads to:

• slowing down peristalsis and constipation;

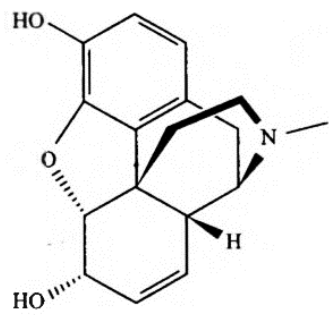
• spasm of the bile ducts;

• spasm of the bladder.

It is this effect, like euphoria, that is the reason for the development of mental and physical dependence on such types of substances. The desire to experience the same pleasant sensations, again and again, pushes a person to take drugs no longer for medical purposes.

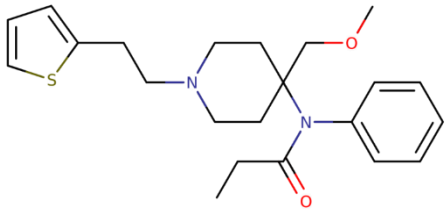
With the constant use of the drug, the production of the body's own endogenous substances is inhibited, and therefore, when the introduction of a substance from the outside is canceled, the body begins to experience severe insufficiency, which manifests itself in the development of an abstinence syndrome.

In this case, a reaction occurs from the autonomic, vascular, cardiac, nervous and other systems. A person experiences incomparable torment, he develops depression, psychoses, which sometimes resemble schizophrenia.

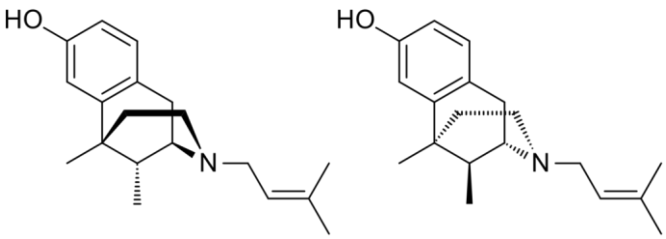


Morphine (on behalf of the son of the ancient Greek god of dreams - Morpheus) is the main poppy alkaloid of the hypnotic phenanthrene series. The first narcotic analgesic that laid the foundation for the study of the pharmacology of opioids and the synthesis of other drugs in this group. - 154 - Morphine was first isolated from opium by the German pharmacologist Friedrich Sertuner in 1804. It was Sertuner who gave morphine its

name after the god of dreams in Greek mythology - Morpheus, the son of Hypnos, the god of sleep. Natural opium contains the left-handed stereoisomer of morphine. It is noteworthy that the synthesized dextrorotatory isomer does not have the pharmacological properties of a natural analogue. Undoubtedly, the main pharmacological effect of morphine is its analgesic effect, however, the spectrum of the pharmacological activity of the drug is very wide and is not limited only to the analgesic effect.



Promedol is an opioid-type analgesic, which is a semi-synthetic analog of morphine. It is used in medicine to reduce severe pain (birth, post-surgery and others), but, like natural opiates, it is highly addictive when taken uncontrolled. We can say that promedol is a drug, the same as other natural or artificial opiates.



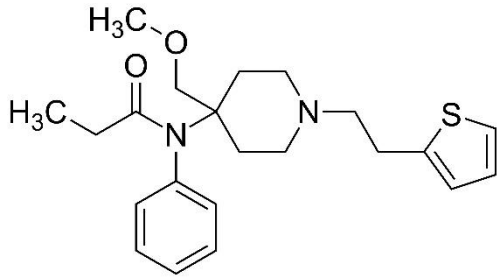
(R)-Pentazocine *(S)*-Pentazocine

Pentazocine is considered a fairly strong analgesic - an analgesic of narcotic properties of the opioid series. In terms of analgesic activity, it is close to morphine, but the side effects of pentazocine are less pronounced. Pentazocine has a weaker effect on the smooth muscles of the internal organs and the respiratory center.

The medicine can cause attacks of dysphoria - a gloomy and irritable mood, hostility to others.

Indications for use. Pain syndrome of moderate and severe intensity of various origins. For premedication before surgery.

When used in large doses, respiratory depression is possible.



Sufentanil is a synthetic thiamine analogue of fentanyl. It belongs to the class of phenylpiperidine opioids, which differ little in their properties. However, the peculiarities of the chemical structure cause a different intensity of

clinical effects. The drug is used as an auxiliary analgesic.

People with pronounced drug intoxication must be immediately taken to a medical facility. Naloxone is one of the most effective drugs for the treatment of opium poisoning.

Its action is based on the displacement of morphine from opium receptors. As a result of the action of the drug, the respiratory function returns to normal, consciousness returns. If there is no improvement, then the poisoning is caused by other reasons. In any case, with any signs of poisoning, you must call an ambulance and not risk your life.

References

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