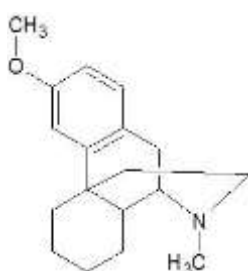


Synthetic opioids

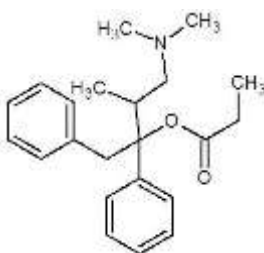
Opioids are substances that bind to the same receptors in the brain of morphine, stimulating the activity of dopamine in the limbic system, particularly the nucleus accumbens, thus producing the gratification, the pleasure linked to their use. Heroin and morphine are the most known opioids. However, in recent years, are appearing on the market of drugs, new synthetic opioids that fall under the category of New Psychoactive Substances. Among these, methorphan (racemic mixture of stereoisomers dextromethorphan and levomethorphan, the latter acting as opioid), Demerol (pethidine), propoxyphene, AH-7921, dipipanone.

Description

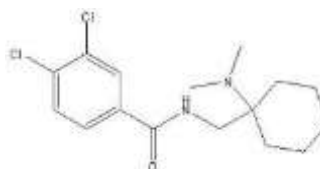
Chemical structures of some opioids



Methorphan



Propoxyphene



AH-7921

Among the short-term adverse effects of classics opioid (heroin , morphine), there are: sedation, strong drowsiness, psychomotor retardation with loss of concentration, cognitive deficits, lethargy, apathy, difficulty speaking, difficulty breathing, low blood pressure and heartbeat, constipation, nausea and vomiting. In case of overdose, coma, severe respiratory depression, contraction of the pupil, pulmonary edema are observed. A belated intervention can cause death.

Effects

Among the long-term adverse effects: tolerance (the need to increase the dose to get the same effect), dependence with withdrawal syndrome characterized by severe anxiety, depression, tremors, cramps, vomiting, diarrhea, hypertension and hyperthermia, tachycardia, profuse sweating.

Methorphan produces different effects depending on the stereoisomer: levomethorphan in particular is a potent narcotic analgesic. Propoxyphene may cause adverse effects such as confusion, dysphoria, euphoria, hallucinations, disorientation, and other neurobehavioral effects such irrational behavior and/or self-injurious acts.

AH-7921 is a synthetic opioid whose intake has been linked to several deaths in Europe. Demerol may have stimulating effects mediated via inhibition of dopamine or norepinephrine transporters. Moreover, in addition to the side effects common to all opioids, such as constipation, dry mouth, dizziness, muscle twitching, nausea, repeated administration of Demerol can lead to neurotoxic effects of type. The

dipipanone is a structural analogue of methadone and has analgesic and antipyretic effects.

In Italy, levomethorphan and racemethorphan (with the exception of **Legal status** dextromethorphan) are included in Schedule I Section A of the Law on Discipline of narcotic drugs and psychotropic substances, prevention, treatment and rehabilitation of drug addiction, DPR 309/90 and subsequent amendments; dextromethorphan it is expressly excluded.
Dextropropoxyphene, pethidine and dipipanone molecules are included in the tables of Presidential Decree 309/90 and subsequent amendments.