How to Recognize and Treat the 5 Major Drug Intoxications

See online here

Regardless which specialization you choose later, you should know the main symptoms and treatment of the most common drug intoxications. Be it older patients with dementia, patients with a history of drug abuse or accidental poisoning in children after playing with the medicine cabinet. Brush up your knowledge for exams and practice and read everything relevant to the 5 major drug intoxications!

In emergencies, medics quickly need to capture many important parameters in order to act properly. Since a patient's medical history is usually impossible to evaluate in such cases, the present symptoms, the environment (or the place where the patient were found) and the information given by third parties are particularly important. However, beware! In exam questions, clichés sometimes can be true (e.g. public toilet and overdose of opioids), but often there are false trails.
1. Opioid Intoxication

Symptoms

A patient with an overdose of opioids typically has pinpoint pupils (in exam questions often called „Steckis”), bradycardia, hypothermia, respiratory depression and the reflexes are hardly or not triggered. During the course of examination, the physician may notice a rhabdomyolysis, recognizable by the pronounced rigid movements.

Therapy

The method of choice here is the opioid receptor antagonist naloxone (half-life period < 30 min!) or the orally administrable naltrexone. The slow titration is necessary in order to avoid abrupt opioid withdrawal symptoms. A constant monitoring of the patient primarily includes observation of the airways; in severe respiratory depression, intubation with mechanical ventilation is necessary. Diazepam can be administered for the interruption of seizures.

2. Intoxication with Benzodiazepines

Symptoms

The classic triad of symptoms consists of altered consciousness, obtained vital signs and no neurological deficits. In patients with organic brain damage, auto-aggressive behavior with hallucination characteristics may occur. Benzodiazepines can be detected in urine (qualitative) and serum (quantitative).

Therapy

In most cases, the administration of laxatives and activated carbon is sufficient; also, induced vomiting can be therapeutically effective. If these strategies don’t show adequate results, the antidote flumazenil is the drug of choice.

3. Intoxication with Paracetamol

Symptoms

As one of the main representatives of the non-opioid analgesics, Paracetamol is almost inflationary used as non-prescription analgesic. In case of overdose, there is hepatotoxic (liver cell necrosis) and nephrotic damage.

Therapy

The antidote of Paracetamol is acetylcysteine.

From 4 g/d Paracetamol acts hepatotoxic, lethal from 12g/d.

4. Intoxication with Tricyclic Antidepressants
Symptoms

A patient with a TCA overdose, presents with symptoms of anticholinergic syndrome: mydriasis, hyperthermia, tremor, tachycardia, tonic-clonic seizures, dry skin and increased thirst.

Note: Convulsions, coma, cardiac arrhythmias may also occur.

Therapy

Induced vomiting and activated carbon administration is also useful here in conscious, cooperative patients. In comatose patients, however, the administration of the antidote physostigmine must be performed. Initiate circuit monitoring and eventual stabilization!

5. Intoxication with Local Anesthetics

Symptoms

The CNS symptoms in case of a local anesthetic overdose (e.g., bupivacaine) include a metallic taste in the mouth, speech sounds like there is a lump in one’s throat, peroral tingling and double vision, confusion and unrest, tonic-clonic seizures and coma. After deriving an EKG, you can see the alterations in the QRS complex (shortened QT interval, AV blocks) as well as conduction disturbances to ventricular fibrillation and asystole.

Therapy

You can counteract with lipid infusions, adrenaline and diazepam.

References

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Intoxikationen: Einsatzspektrum und Antidote via Uni Heidelberg Arbeitskreis Notfallmedizin

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