

Ethanol

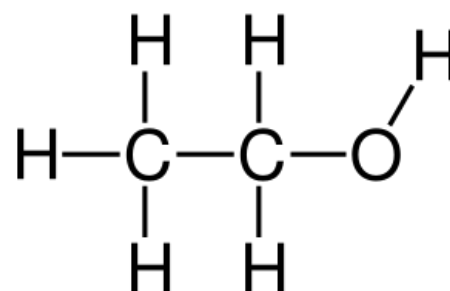
Ethanol or ethyl alcohol is a sedative-hypnotic substance.

Introduction

Ethanol is almost completely metabolized. Only about 5-10% exhaled unchanged through the lungs or excreted in urine or sweat. It is absorbed quickly from the GIT. Spirits are absorbed the fastest, beer is the slower. The maximum blood level is usually 30-40 minutes after ingestion. The estimate of blood alcohol concentration (per mille) can be calculated by the amount of alcohol in grams divided by 0.7 times the human weight.

The clinical picture of ethanol intoxication

- 1 ‰ – euphoric stage, accompanied by attenuation of gluconeogenesis and hypoglycemia
- 2 ‰ – extension of reaction times. We can observe disorders of coordination and balance and analgesia.
- 3 ‰ – narcotic stage, this stage is characterized by respiratory depression and coma



Ethanol-2D-flat

Excessive use of ethanol will damage the body, not only the substance but especially its metabolites. Up to 98% of the alcohol consumed is oxidized in the body by three enzymes:

- alcohol dehydrogenase
- microsomal ethanol oxidation system (MEOS)
- **catalase**

A smaller part is excreted by breath, sweat and urine.

Use

Professional exposition - a component of cleaning agents, thinners, for extractions, syntheses (formaldehyde, esters, detergents, plastics, varnishes).

The main symptoms

The symptoms are often CNS depression with coma, respiratory depression and irritating effects on the GIT (vomiting). There is therefore a high risk of aspiration. Gluconeogenesis worsens, which may pose a risk of hypoglycaemia for people with poor nutritional status. Drunks are prone to colds (due to vasodilation) and trauma.

Therapy

In acute poisoning, place the victim in a stabilized position. Alternatively, we intubate to achieve controlled breathing. We prevent hypothermia and give glucose, thiamine.

There is no specific antagonist, but naloxone (Intrenon) has a beneficial effect on coma. Gastric lavage is important within 30 minutes after ingestion, activated charcoal has no effect, and forced diuresis as well. Hemodialysis has a good effect (indicated at 4-5 ‰).

Links

Related articles

- Alcohol intoxication
- Alcohol
- Alcoholism
- Metabolic acidosis
- Electrochemical determination of ethanol in exhaled air

Extern links

- Etanol (czech wikipedia)

Source

- BENEŠ, Jiří. *Studijní materiály* [online]. [cit. 24.02.2010]. <http://jirben2.chytrak.cz/materialy/nzp_jb.doc>.

