

Practical Toxicology

Lab 5

Alcohol (Ethanol)

Assist. Lecturer:

WATBAN ABDULLAH AHMED

Alcohol (Ethanol)

It is a clear colorless liquid. It is a powerful CNS depressant that acts primarily on the reticular activating system in the brain. Its effect is directly proportional to its blood concentration.

It is highly polar compound with low molecular wt. It is miscible with water and lipid soluble therefore it can pass the blood brain barrier.

The commonest route of exposure is by ingestion (others through inhalation or skin contact).

Absorption

begins in the stomach but only a small amount is absorbed directly in to the blood stream. The rate of absorption is much greater in the small intestine. Food has a significant effect on gastric emptying especially when food is rich in fat.

On an empty stomach, complete absorption will take place in about 1-2 h. while on a full stomach; complete absorption may be delayed up to 6 h.

Symptoms

Alcohol poisoning symptoms include:

- ▶ Nausea and vomiting
- ▶ Confusion
- ▶ Slurred speech
- ▶ Unconsciousness and unresponsiveness
- ▶ Aggression
- ▶ Seizures
- ▶ Slow breathing

Causes

- ▶ Binge drinking - heavy drinking in a short period.
- ▶ The Risk factors include:
- ▶ The amount of alcohol consumed
- ▶ Frequent binge drinking

Diagnosis

A blood alcohol test measures the percentage of alcohol in a sample of your blood. This test can measure your level of intoxication. It's often used for legal reasons, such as testing if someone was driving while under the influence of alcohol. An alcohol blood test is performed in a medical facility.

Treatments

Your treatment plan may include one or more of these options.

- ▶ **Therapy**
- ▶ **Intravenous therapy: IV fluids prevent dehydration.**
- ▶ **Nutritional therapy: To avoid hypoglycemic shock - sudden fall in the blood glucose level.**
- ▶ **Oxygen therapy: To prevent unconsciousness.**

Thanks for Listening