



Ethylene glycol exposure in cats



Alternative name
Ethanediol

Description/Source

Used widely as an antifreeze (often dyed a bright colour), in screen washes, brake fluid, inks, and as a coolant. A clear fluid with a sweet taste.

Species affected

Dogs, Cats

Toxicology

Ethylene glycol is converted by alcohol dehydrogenase to a number of toxic metabolites, and it is these compounds that are responsible for the renal damage and hypocalcaemia. In cats, the onset of effects may be more rapid than in dogs. Ethylene glycol has a lower fatal dose and higher mortality rate in cats than in dogs.

Risk factors

None known.

Clinical effects

Onset

Initial signs from 30 minutes to 12 hours.

Common signs

- Stage 1 (30 minutes to 12 hours): Central nervous system signs with vomiting, ataxia, weakness and convulsions. Metabolic acidosis (high anion gap) and hypocalcaemia.
- Stages 2 and 3 (12 to 24 hours): Cardiopulmonary signs with tachycardia, tachypnoea and pulmonary oedema. There may be a transient recovery followed by coma and convulsions. Renal signs with oliguria, azotaemia and renal failure.

Other signs

Oxaluria, hyperglycaemia, hyperkalaemia and hyperphosphataemia.

Treatment

- Gut decontamination is probably only worthwhile if the animal presents within 1 hour of ingestion.
- Activated charcoal is not useful.
- Ethanol is a specific antidote and should be given as soon as possible. **Ethanol should not be given to cats in renal failure.**
- Sodium bicarbonate can be used for acidosis.
- Monitor renal function.
- Supportive care.

Prognosis

Guarded for animals that present early. Poor in animals with renal failure.

For further case-specific advice on clinical effects and management contact the Veterinary Poisons Information Service (VPIS) on 020 7188 0200.

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