



Sodium Chloride Poisoning in Cats and Dogs

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Sodium chloride characteristics

It is an inorganic compound essential for the animals, its inadequate intake will lead to a disturbance in the metabolism, mainly in the ratio of ions (Calcium, Magnesium, Potassium and Sodium), it may also cause a change in osmotic pressure, Ph, NaCl-H₂O metabolism; and disrupt the normal function of these systems: gastrointestinal, cardiovascular and nervous.

The sodium derived from the salt balances the Ph levels whereas the chlorine balances the level of acids and aids in digestion.

Effect of sodium chloride on the animal's body

Excessive intake of salt will lead to, as previously mentioned, an alimentary toxicosis. In order to determine how much your feline or canine companion can consume, we rely mainly on its species and body weight. For dogs toxicosis occurs accordingly:

- More than 0.05 tablespoon/day in extra small breeds
- More than 0.5 tablespoon/day in small breeds
- More than 1.3 tablespoon/day in medium breeds
- More than 2 tablespoon/day in large breeds
- More than 3.5 tablespoon/day in extra-large breeds
- More than 4.5 tablespoon/day in extra extra large breeds
- As for cats toxicosis occurs as such:

- More than 0.05 tablespoon/day in most cats
- More than 0.5 tablespoon/day in large cats.

Normally, NaCl is easily soluble in water thus rapidly excreted from the body, but during toxicosis at high concentrations it irritates the mucous membranes of the stomach and can lead to possible necrosis and inflammation.

Also, once the salt is absorbed from the gastrointestinal tract through the bloodstream it will cause a change in the osmotic pressure thus leading to dehydration.

Lastly, NaCl toxicosis leads to a violation of blood ionization which damages the central nervous system.

Clinical manifestations

Poisoning is observed when feeding salted meat or other foods, it occurs with a high possibility of death. Early manifestations of depression and paralysis characterize the clinical picture. Dogs and cats refuse food. At first, they greedily drink water, lose the ability to swallow, breathe rapidly, have a weak pulse, and average temperature. Seizures are rare. Death occurs a few hours after eating food.

Differential diagnosis and prognosis

The prognosis is unfavorable, primarily when a seizure occurs. The diagnosis is made based on anamnesis data, clinical signs, pathological changes, data of chemical and toxicological researches.

Treatment

Most importantly eliminate the cause of poisoning and provide animals with good drinking water. There are no specific antidotes. Effective gastric lavage, deep enemas. Then give vegetable oils, prescribe diet, mucous broths, milk. To normalize the ratio of sodium

and calcium ions, intravenous administration of calcium chloride is beneficial.

Depending on the condition of the animals, symptomatic treatment is carried out: cardiac drugs (caffeine, camphor), respiratory analeptics are prescribed. At intense excitement, apply sedatives: salts of bromine, chloral hydrate. In case of poisoning to reduce the absorption of sodium chloride from the stomach, give burnt magnesium at a dose of 2-5 g per dose (up to 2 times a day) or purified sulfur in identical amounts. It is also recommended to introduce vitamin B12 at 12 mg/kg; vitamin D - 0.0016 g/kg. Water should be given many times, in small portions for 5-8 hours after poisoning. Otherwise, there is a risk of developing cerebral edema.