

## **Laboratory diagnostics of poisoning at animals**

**Objective.** Identify the most effective methods of laboratory diagnosis. **Methods.** Analytical, Laboratory Results. Among the substances that cause poisoning in dogs, the most common are: zookumaryn, bromadiolone, ratyndan, cyanide, mercury compounds, arsenic, organophosphate, organochlorine, cyanide compounds krysyd, zinc phosphide, isoniazid (tubazyd). **Conclusions** Diagnose poisoning in dogs based on anamnesis data, analysis of clinical signs of poisoning, results of laboratory tests or pathologoanatomical sections.

*Key words: poisoning, classification of poisonings, laboratory diagnostics, methods, clinical signs, course of poisoning, isoniazid.*

Of the domestic non-contagious diseases of dogs, poisoning is a very topical issue, as there are quite frequent cases of this type of animal. The cause of poisoning can be broken food, household chemicals, medicines, poisonous chemicals, poisonous plants, snakes and insects, gases, etc. [1 - 3, 7, 9]. The purpose of the research is to analyze the main aspects of the diagnosis of poisoning in dogs. Identify the most effective methods of laboratory diagnosis. Materials and methods of research. Analytical, laboratory. The domestic and foreign literary sources concerning the diagnosis of poisoning in dogs and methods of their laboratory diagnostics are analyzed. Research results. Poisoning of domestic animals, and in particular dogs, may be accidental (in the case of animal poisoning for rodents, insects, etc.) or deliberate; Food and non-food. Clinical signs: acute, subacute and chronic. Food poisoning occurs much more often. A dog may be poisoned with poison for rats, medicinal substances or spoiled food [1, 4, 5, 8 - 10]. To include such non-food poisoning poisons and toxins that enter the bloodstream through the mucous membranes of the animal, respiratory or skin. For example, if the dog hair falling on it gets toxic substances in the blood and the animal appears strong intoxication [2 - 4, 6, 8, 9]. Among the substances that cause poisoning in dogs, the most common are: zookumaryn, bromadiolone, ratyndan, cyanide, mercury compounds, arsenic, organophosphate, organochlorine and cyanide compounds krysyd, zinc phosphide, isoniazid (tubazyd) [1, 8, 10]. One of the most common drugs that are used for the deliberate poisoning of dogs is isoniazid (tubazyd) - a drug to treat tuberculosis in humans, mainly used for the preparation of baits dohhanteramy (from the English. "Hunters dogs"). Rapidly absorbed in the small intestine, clinical signs appear half an hour after poisoning. Dogs are very sensitive to the drug (compared to humans) because their body can not metabolize isoniazid because of low activity acetyltransferase ^ [1, 3, 5, 7]. All poisons, getting into the gastrointestinal tract, along with food, dissolve in digestive juices - enzymes. The severity of poisoning depends on the amount and degree of solubility of the poison. If the potion is well soluble in enzymes, it is soon absorbed in the blood and spreads in the body. Therefore, in case of getting into the body of well-soluble poisons, even emergency veterinary care may not always be effective. Poorly soluble poisons absorbs more slowly, and their harmful effects do not appear immediately [4, 6, 8 - 10]. The course and clinical signs of poisoning in dogs are different. They depend on toxicity, mechanism of action, absorption rate, duration of action on the organism, type and dose of poison. However, there are some features characteristic of any poisoning - vomiting, diarrhea, cramps, weakness, salivation, tremors or muscle tension, depressed or overly excited state, heart rhythm disturbances and others. These symptoms are rapidly increasing, and for the untimely taking of measures, the death of the animal may occur in the coming hours [2, 3, 5, 7, 10].

Diagnosis of poisoning of dogs by chemicals, poisonous plants, poor quality feeds should be complex and include: data of anamnesis; Analysis of clinical signs of poisoning, morphological and biochemical changes in blood; The results of the detection and quantification of toxic substances in biological materials and in feeds, water, which affected animals were contacted. Laboratory studies include specific quantitative and qualitative

determination of toxic substances in biological environments of the organism and non-specific biochemical studies to diagnose the severity of toxic effects on the liver, kidney and other body organs and systems, thin-layer liquid chromatography, atomic absorption spectrophotometry, gas chromatography, and others. [1, 2, 7]. Research has revealed that isoniazid has been detected in 5% of cases related to poisoning in 2015.

### **Conclusions**

Diagnosis of poisoning in dogs is carried out in a complex manner, based on: data of anamnesis; Analysis of clinical signs of poisoning, morphological and biochemical changes in blood; The results of the detection and quantification of toxic substances in biological materials; The results of detection and quantification of poisonous substances in feeds, water contacted by the affected animals, as well as the results of pathologicatomic autopsy (in case of death of the animal).

### **Bibliography**

1. Aleksandrov Yu.A. Fodder toxicosis of farm animals and poultry / Yu.A. Aleksandrov - Yoshkar-Ola: Mar. State Unt., 2000. - 88 p.
2. Arrest I.G. Veterinary Toxicology / IG Arrests, ng Pusher - Minsk: Urajaj, 2009. - 343 p.
3. Khmel'nitsky G.O. Veterinary toxicology / G.O. Khmel'nitsky, OO Malinin, O.T. Cucan - K .: Agrar. Education, 2012. - 352 pp.
4. Anadon A. Poisonous plants of Europe. Veterinary Toxicology Basic and Clinical Principles / A. Anadon, M. Martinez-Larranaga, V. Castellano // CA: Macmillan Company. - San Diego, 2012. - 2nd ed. - P. 1092.
5. Eason C.T. Vertebrate pesticide toxicology manual (Poisons) /C.T. Eason, M. Wickstrom // Department of Conservation Technical Series 23. - Wellington, 2001. - 122 p.
6. Gfeller R.W. Cyanide // Handbook of small animal toxicology and poisonings / R.W. Gfeller, S.P. Mes-sonnier - 2 nd ed. - Mosby, St Louis, Missouri, USA 2004. - P. 120 - 127.
7. Knight M.W. Small animal toxicology. Zinc Phosphide / M.W. Knight M.E. Peterson P.A. Talcott - Philadelphia, USA, 2001. - R. 748 - 755.
8. Lam K.K. An incident of hydrogen cyanide poisoning / K.K. Lam, F.L. Lau // American J. of Emergency Medicine. - 2000. - No. 18. - P. 172 - 175.
9. Moyano Salvago M.R. Intoxicacion aguda en perro to toxins de sapo (Bufo bufo) / M.R. Moyano Salvago, A.M. Molina Lopez, A.J. Lora Benlitez // Rev Electron Vet. - 2009. - V. 10 (4). - P. 1 - 5.
10. Parton K. Phosphorus // Veterinary clinical toxicology / K. Parton - Massey University, NZ, 2001. - P. 82 - 85. Released 13.11.2015.