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THE USE OF EVERYDAY SITUATIONS AS A TOOL IN THE TEACHING OF VETERINARY TOXICOLOGY

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Abstract: Toxicology is a broad field of study that seeks to understand the harmful effects of substances on living beings. Bearing in mind this concept, the veterinarian must, wisely and responsibly, apply this knowledge in favor of the well-being of all – animals and humans, and seek, within his scope, solutions to conflicts of a social nature. Therefore, part of this process is only possible through the use of real contexts and scenarios, which instigate the student's critical thinking and make him visualize the situation as a whole, so that, in the end, he may be able to apply, in his professional future, the lessons learned during the course.

Keywords: Teaching. Daily. Toxicology.

INTRODUCTION

The technical-scientific advance is widely used by society as a tool for the emergence and invention of technologies and products, which are capable of bringing the most varied benefits. Vaccines, drugs, fertilizers and agricultural defensives are cited as great examples of how these elements impact the socioeconomic development of any country. However, some substances created by industry can be potentially toxic, not only to humans but also to animals. Therefore, it is necessary to use the knowledge developed by Veterinary Toxicology – multidisciplinary science – to understand the impacts and even the legal implications (Forensic Toxicology) of these episodes of intoxication.

METHODOLOGY

A compilation of news was carried out – sorted from the oldest to the most current – regarding cases of poisoning in dogs by snacks contaminated with monoethylene glycol. Subsequently, this information was presented to the students of the Veterinary Toxicology discipline and, on the occasion, their opinion was also asked about the use of

everyday situations to assist in the teaching and understanding of the contents covered in the classroom and in the monitoring.

RESULTS AND DISCUSSION

The first piece of news collected dates from September 6, 2022 and states that since the end of August, the Civil Police of Minas Gerais have been investigating the deaths of several dogs that ate snacks supposedly contaminated with monoethylene glycol – a toxic industrial product, also known as ethylene glycol – widely used for cooling in freezers and refrigerators, but which can also be found in car batteries and engines. The suspicions were directed to MAPA (Ministry of Agriculture, Livestock and Supply) which also initiated an investigation.

On September 7, MAPA was able to identify irregularities involving the supplier of raw materials to Bassar – the factory responsible for making the snacks, which was banned after the detection of the toxic substance in one of the samples of its products. This occurred because propylene glycol, an input used industrially in the manufacture of food for humans and animals, acquired by the company from the supplier Tecnoclean Industrial LTDA, would be contaminated with monoethylene glycol. According to the Ministry of Agriculture, the activities allowed for Tecnoclean Industrial LTDA (supplier) do not allow the elaboration of products intended for animal feed – disobeying the technical requirements of identity and quality. Due to this fact, the manufacturer is not registered with MAPA or with other inspection bodies.

On September 12th, the Ministry of Agriculture, Livestock and Supply indicated the probability that the raw material contaminated with monoethylene glycol was also supplied to food factories for human consumption; therefore, ANVISA (National Health Surveillance Agency) decided to bar

the sale, distribution, handling and use of two batches of the propylene glycol ingredient from the company Tecnoclean Industrial LTDA. The PROCON (Consumer Protection and Defense Program) of the state of São Paulo summoned Bassar to provide clarification on the occurrences.

As of September 16, investigations are still ongoing. There are reports of cases in the states: Minas Gerais, São Paulo, Goiás, Sergipe, Rio Grande do Sul, Paraná, Santa Catarina, Alagoas, Rio de Janeiro and in the Federal District. In all, 54 deaths were reported in the country related to the ingestion of contaminated snacks. In Minas, 18 animals hospitalized with renal failure were recorded.

In an interview provided to the G1 News Portal on September 23, veterinarian Moara Gomes Lopes clarified that the symptoms that indicate acute intoxication by this type of toxic substance include: vomiting, diarrhea, failure in motor coordination and excessive salivation. In chronic situations – in which the animal ingests small portions over days – symptoms that include behavioral changes, such as lack of appetite, for example, may be present. She adds that the signs shown will depend on the degree of toxicity and the amount that the substance was ingested – situations of kidney and liver failure, pancreatitis and even sudden death may occur. So far, the products under suspicion are: Every Day liver flavor (batch 3554) and Dental Care (batch 3467). Previously, on September 2nd, MAPA interdicted a factory belonging to the company Bassar and ordered the nationwide recall of all batches of products due to suspected contamination.

On September 29, the Civil Police released the latest update regarding this issue. In total, 54 dogs would have died from poisoning in 12 states and the Federal District. The companies involved can answer for crimes against public health and fraud.

After researching and gathering all this information, this content was presented to students who are studying Veterinary Toxicology and their opinion was requested. From the news above, we can extract examples of toxicodynamics – reflected in the symptomatology presented by the animals affected by the toxic agent – and notions of Forensic Toxicology – the implications related to public health and of a legal nature. Unanimously, the students stated that using everyday situations as an example helps to establish the content taught in the classroom. In addition, some even stated that this approach makes the learning process more dynamic, enriching and that they liked this type of content.

FINAL CONSIDERATIONS

Employing methodologies that use real cases of intoxication in the teaching of Veterinary Toxicology adds positive values to the teaching-learning process, such as: application, in everyday life, of subjects taught in the classroom and differentiation from more traditional teaching systematics.

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