RESUMO - MICROBIOLOGIA E IMUNOLOGIA

INTOXICATION IN HORSES BY ALFALFA SLAGRAMINE - CASE REPORT

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Horses are considered monogastric herbivorous, whose diet is basically made up of forage, as well as cereals supplied in the form of concentrate in commercially sold feed. It is not uncommon for these feeds to be contaminated by mycotoxin-producing fungi, which can impact on the health of horses. Some of the most commonly found mycotoxins include aflatoxins, fumonisins,

ochratoxins, zearalenone and trichothecenes. Among the mycotoxins, eslaframine stands out, classified as an indolizidine alkaloid, produced by the fungus Rhizoctonia leguminicola, which infests red clover and other legumes. Different mycotoxins are known to have adverse effects on animal health. However, most research is restricted to fumonisin. The aim of this paper was to describe a case report of eslaframine intoxication, an underdiagnosed mycotoxin despite its negative effects on equine breeding. By documenting this case, we aim to provide relevant information that can guide future research and management practices, thus promoting the health and well-being of these animals. In April 2023, 2 Mangalarga Marchador (MM) and 2 Brazilian Pony (PB) horses showed signs of excessive and profuse salivation after having been fed alfalfa the previous day. These clinical signs raised the suspicion of intoxication, probably associated with the presence of mycotoxins. As a result, the alfalfa supply was immediately stopped and, after 24 hours, the sialorrhea was no longer observed. A sample of the plant material was collected for mycotoxicological analysis at the Mycology and Mycotoxicology Laboratory of the Federal Rural University of Rio de Janeiro (UFRRJ). The analysis showed fungal growth on all the leaves and isolated a fungus compatible with Rhizoctonia sp. which was entirely related to the clinical picture of slagramine intoxication observed in the affected animals. The fungus of the species Rhizoctonia leguminicola is considered a common pathogen of red clover (Trifolium pratense) and some legumes, and is responsible for causing a syndrome known as “black spot disease in the plant”. This fungus produces a mycotoxin called eslaframine which has parasympathomimetic properties, mimicking the action of acetylcholine and binding to its receptors. Equines are highly susceptible, and clinical signs include profuse salivation as a characteristic clinical response, as observed in the case reported. The activity of eslaframine on cholinergic receptors in the salivary glands is the cause of this clinical sign. However, other signs can also be observed, such as moderate tearing, frequent urination, diarrhea and tympanism. The clinical signs develop within 5 to 6 hours of consumption and disappear approximately 24 hours after the contaminated forage is removed. The animals in this report showed no clinical signs other than sialorrhea. The diagnosis of intoxication can be made by identifying Rhizoctonia leguminicola in the suspect forage or by detecting

eslaframine in plasma samples from exposed animals. In this report, the intoxication was linked to the consumption of alfalfa; however, the majority of cases reported to date involve the ingestion of clover. This fact reinforces the need to pay attention to the different types of forage that may present a risk of contamination by eslaframine. This case highlights the need for more research into the prevalence and impact of mycotoxins on equine health and it is hoped that it will contribute to raising awareness of the importance of controlling the quality of feed for horses, promoting the health and performance of these animals.

Palavras-chave: fungus; mycotoxin; rhizoctonia leguminicola.