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SUCCESSFUL CLINICAL MANAGEMENT OF ACUTE DIARRHEA DUE TO *Abrus precatorius* SEED IN A CROSS-BRED MURRAH BUFFALOES

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ABSTRACT

Recent incidents have highlighted the poisoning of buffalo due to the ingestion of *Abrus precatorius* seeds, commonly known as rosary peas or jequirity peas. A three-year-old Murrah buffalo was presented to the Large Animal Medicine unit of the Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal with a history of accidentally ingesting Abrus seeds during grazing. After consumption, the animal had diarrhoea with severe abdominal pain. The animal was treated with fluid therapy, antibiotics and supportive therapy. The seeds of *Abrus precatorius* are particularly dangerous due to their hard coating, which protects the toxin inside. This communication aims to raise awareness among farmers and veterinarians regarding the symptoms and treatment of abrin poisoning in buffaloes.

Keywords: *Bubalus bubalis*, buffaloes, *Abrus Precatorius*, diarrhea

INTRODUCTION

Abrus precatorius, commonly known as rosary pea or jequirity pea, contains a highly toxic compound called abrin. Ingestion of abrin can lead to severe poisoning in animals, including cattle and buffaloes. They are particularly vulnerable to poisoning when left to graze in fields where *Abrus precatorius* is prevalent. The poisoning of cattle with Abrus is noteworthy due to its role as a malicious poisoning method, a concern particularly relevant in India (Roy *et al*., 1976). Cattle left to graze in a neighbor's field are subjected to suffering as a form of grievance. Upon injection, the needles trigger a sequence of reactions that induce lesions reminiscent of Black Quarter disease, ultimately rendering the animal valueless. However, reports indicate that pre-prepared spikes show decreased effectiveness when compared to freshly powdered ones (Elavarasan and Senthil, 2012).

A case report on *Abrus precatorius* poisoning in crossbred Murrah is presented, documenting clinical observations, and the effectiveness of supportive therapy in managing *Abrus precatorius* seeds poisoning is discussed.

MATERIALS AND METHODS

A three-year-old Crossbred Murrah was presented to the Large Animal Medicine unit of the Veterinary Clinical Complex, Veterinary

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Figure 1. Mucous-membranous stools with foul-smelling diarrhoea.

Figure 2. Improvement of physical well-being and dung after treatment in a buffaloe affected with *Abrus precatorius* seeds.

Figure 3. Improvement of dung 7 h after treatment in a buffaloe affected with *Abrus precatorius* seeds (brownish dung with mucous shreds).

Figure 4. Improvement of dung 8 h after treatment in a buffaloe affected with *Abrus precatorius* seeds (Semisolid Greenish dung with mild blood tinch).

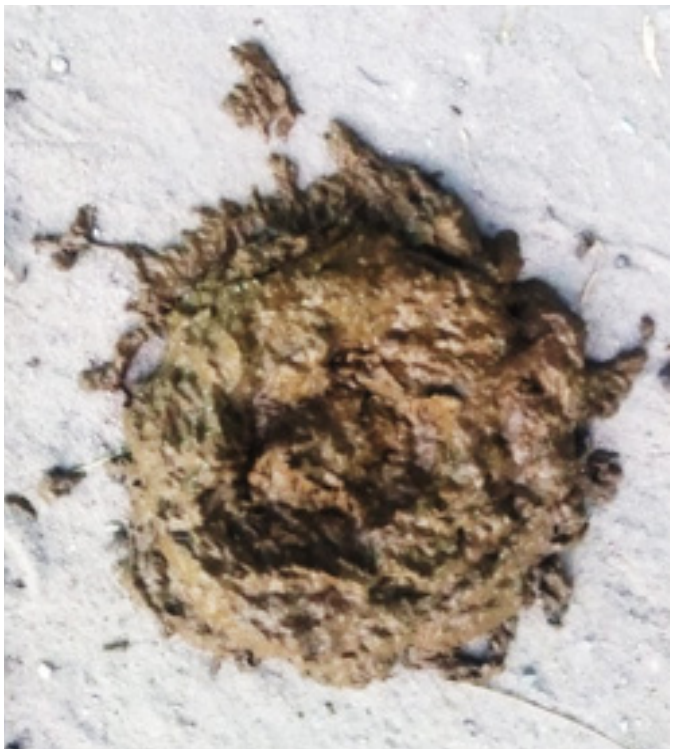

Figure 5. Improvement of dung 9 h after treatment in a buffaloe affected with *Abrus precatorius* seeds (Solid Greenish dung with blood specs).

Figure 6. Improvement of dung 10 h after treatment in a buffaloe affected with *Abrus precatorius* seeds (Solid green dung).

Figure 7. Improvement of Animal status dung 12 h after treatment in a buffaloe affected with *Abrus precatorius* seeds.

College and Research Institute, Namakkal with a history of accidentally ingesting Abrus seeds during grazing. After consumption, buffalo shows restlessness, diarrhea with severe abdominal pain. Mucosal shreds with foul-smelling diarrhea and a few whole seeds of Abrus were noticed (Figure 1). Animals became dull and depressed. Dehydration status was recorded (Sunken eyeball and congested mucous membranes). Ruminal contents showed the presence of only small-sized protozoa with sluggish motility and liquor pH of 7.

The animal was treated with inj. Ringer's Lactate 10 ml / kg BW IV, inj. Sulfa-trimethoprim 25 mg /kg BW IV, inj. Flunixin meglumine 1 mg/ kg BW IM and supportive therapy with vitamin C injection 5 ml IM and Vit B_1 B_6 B_{12} 10 ml IM. The oral supplement was advised with kaolin powder 150 g per day for consecutive three days.

RESULTS AND DISCUSSIONS

The animal showed mild improvement within six hours after treatment. The dung consistency and color changed slightly (Figure 2). It has a semisolid-like consistency with greenish-yellow tinged dung. *Abrus precatorius* seeds contain a variety of chemical compounds including steroids, triterpenoids, proteins, amino acids, and alkaloids. Among these constituents, abrin, a highly toxic protein known as albumotoxin, is considered the primary compound responsible for the poisonous effects of the plant. The most

poisonous part of the plant is the seed which contains the toxic poison abrin responsible for the inhibition of cell protein synthesis (Das *et al*., 2016).

Abrus precatorius a native of subtropical climates, is commonly cultivated as an ornamental plant. Its widespread presence is a leading cause of livestock poisoning, particularly among cattle that tend to graze openly. Poisoning incidents are frequent among both humans and animals, often attributed to the attractive appearance of the seeds, which are shiny red with a black spot at the top (Kafle *et al*., 2018). Abrin, despite being poorly absorbed, can still cause severe gastrointestinal toxicity upon significant exposure. Common symptoms include nausea, vomiting, and diarrhea, potentially leading to severe dehydration and even death in cases of more serious poisoning. (Maregesi *et al*., 2016). On the third day animal was completely recovered and the feeding habit and dung consistency were normalized.

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