

## Intoxication of *Cleistanthus collinus* leaves in a Jersey Cross-Bred Cattle - A Case Report

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### Abstract

The present article reports intoxication of leaves of *Cleistanthus collinus* in a pleuriparous Jersey cross-bred cow. The cow was presented with lethargy, anxiety, ataxia, colic, and muscle tremors following grazing in a field with *Cleistanthus collinus* plant. Serum biochemistry revealed elevated liver enzymes, BUN and creatinine. Cow was administered with intravenous fluids therapy, N-acetylcysteine and oral activated charcoal. Cow died in spite of the treatment. This case underscores the need for creating awareness among farmers on plant toxicity in farm animals.

**Keywords:** *Cleistanthus collinus*, intoxication, cow

### Introduction

*Cleistanthus collinus*, locally known as oduvanthalai, is a toxic plant which poses high risks to livestock and human population. Glycosides present in the plant was reported to be toxic with the dose ranging of 1% to 5% of the body weight (Kumar *et al.*, 2015). Ingesting quantities above this dose range will lead to severe clinical manifestations, such as neurological disturbances, gastrointestinal affections and commonly death. This article describes the toxicity due to leaves of *Cleistanthus collinus* in a pleuriparous Jersey cross-bred cow.

### Case History and Observation

A pleuriparous Jersey cross bred cow was presented to Veterinary College and Research Institute Teaching Hospital, Namakkal with a history of grazing in a field having oduvanthalai leaves. The owner of the cow also brought sample of the leaves and informed about the consumption of the toxic plant by the cow. The cow appeared lethargic, dull, and unresponsive to the external stimuli. Cow exhibited distress, characterized by anxiety, restlessness, ataxia and signs of colic. Tachycardia (120/min), tachypnea (68/min) and elevated body temperature (103.9°C) were recorded. Incoordination, weakness of the limbs, and muscle tremors were observed. Elevated BUN (49 mg/dL), creatinine (12.5 mg/dL), ALT (105 u/l), AST (180 U/L) and ALP (145 U/L) with leucocytosis were

noticed. These clinical findings and history underscore the systemic impact of oduvanthalai poisoning.

### Treatment and Discussion

Cow was administered with intravenous fluids (DNS @ 10ml/kg, IV and RL (@ 10ml/kg) along with N-acetylcysteine (@ 25 mg/kg, IV) and activated charcoal (@ 1g/kg PO). In spite of the aggressive treatment, the cow died indicating the quantum of toxic laves ingested by the animal. The owner was informed of the potential benefits of a post-mortem examination to confirm the cause of death but refused to proceed. This decision limited the ability to gain insights into the specific pathophysiological processes involved (Kumar and Dutta, 2014). The observations in the present study stresses the importance of creating awareness among the livestock farmers regarding the dangerous toxic effect of the plant, *Cleistanthus collinus*. Insights gained from this cases is vital for developing effective management strategies and improving livestock health outcomes in areas where these toxic plants are prevalent (Bhargava, 2016). Ingestion of liquid extracted from crushed leaves of *Cleistanthus collinus*, lead to life-threatening complications such as hypokalaemia, cardiac arrhythmias, renal failure and later death in two young patients (Eswarappa *et al.*, 2003).

### Conclusion

*Cleistanthus collinus* (oduvanthalai) poisoning in a pleuriparous Jersey cross bred cow is placed on record.

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