



P-ISSN: 2349-8528

E-ISSN: 2321-4902

IJCS 2018; 6(3): 2160-2161

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Received: 04-03-2018

Accepted: 08-04-2018

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## International Journal of Chemical Studies

# Management of *Colocasia* plant leaves poisoning in a crossbred cattle

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### Abstract

A two and half year crossbred cattle was presented at Teaching Veterinary Clinical Complex, C.V. Sc. & A.H. R.K. Nagar, Tripura (W) with history of excessive consumption of *Colocasia* plant leaves (Locally known as kochu), anorexia and hyper salivation. All other physiological parameters were normal. Blood was collected for haemato-biochemical estimation which revealed normal value of aspartate aminotransferase (AST), alanine transaminase (ALT), haemoglobin (Hb), packed cell volume (PCV) and total erythrocytic count (TEC). On the basis of history it was suspected to be a case of *Colocasia* plant leaves poisoning. The cattle was stabilized with 5% dextrose, methyl prednisolone acetate, chlorpheniramine maleate, liver extract for three days. The cattle completely recovered after three days of treatment.

**Keywords:** cattle, *Colocasia*, leaves, poisoning, management

### 1. Introduction

*Colocasia* also known as Elephant's ear plant, kochu belong to Araceae family of plant. Most species in the *Araceae* contain raphide (calcium oxalate) crystals which are needle and arranged in compact bundle [1]. Upon chewing of the plant, the crystals are ejected from specialized explosive ejector cell (idioblasts) and may become lodged in the lining of the mouth, tongue and throat leading local inflammatory reactions which include burning, irritation and oedema of the buccal cavity, hypersalivation and aphonia [2]. *Colocasia* leaves is non-haemotoxic and it might have some hepatoprotective action [3][4].

### 2. Material and Methods

#### 2.1 Case history and Observations

A two and half year old cross bred cattle was presented with a history of excessive consumption of *Colocasia* plant leaves and with a complaint anorexia and hyper salivation at TVCC, College of Veterinary Sciences and Animal Husbandry, R.K.Nagar, Tripura (W). Clinical inspection of the cattle revealed normal temperature, normal respiration, normal pulse rate, normal ruminal movement. Examination of the buccal cavity revealed inflammatory signs and hyper salivation. Haemato-biochemical parameters i.e. Haemoglobin, total leucocyte count, alanine transaminase and aspartate transferase were within normal range.

#### 2.2 Collection of sample

Blood sample from naturally affected cattle was collected aseptically for hematological and biochemical studies on the day of consumption of *Colocasia* plant leaves consumption.

#### 2.3 Analytical procedure

Alanine transaminase (ALT) and aspartate aminotransferase (AST) were analysed by commercially available kit (Aspen Laboratories).

Haemoglobin (Hb), packet cell volume (PCV) and total leucocyte count (TLC) were analyzed by automatic haematolyzer available at TVCC, College of Veterinary Sciences and Animal Husbandry. R.K.Nagar, Tripura(W).

### 3. Result and Discussion

#### 3.1 Haemato-biochemical values

Haemoglobin, packed cell volume, total leucocyte count, alanine transaminase and aspartate transferase were within

normal range (Table 1). This finding is in harmony with a study in rat [3].

**Table 1:** Table showing different haematological and biochemical parameters

S. No	Parameters	Reference value*	Affected cattle
1	Haemoglobin (Hb),	8-15 g/dl	12 g/dl
2	Packet cell volume (PCV)	24-26 %	25%
3	Total leucocyte count (TLC)	4-12×10 <sup>3</sup> /μL	7×10 <sup>3</sup> /μL
4	Alanine transaminase (ALT),	6.9-35 μ/L	18 μ/L
5	Aspartate aminotransferase (AST),	60-125 μ/L	78 μ/L

\*Reference range from –The Merck Veterinary Manual [5]

### 3.2 Treatment

To stabilize the cattle was immediately rendered by Dextrose (5%) 4 Ltr. I/V twice daily till recovery, Prednisalone injection @0.5 mg per kg body weight I/M, Anistamin injection @ 5ml I/M per animal, Belamyl injection 8 ml per animal I/M for three consecutive days. Fluid therapy was administered to replace the fluid loss through salivation [1]. Corticosteroid was administered as per earlier review [6] but their value has not been assessed. There is protective effect of antihistaminic in toxicity of the genus *Dieffenbachia* [7]. Liver extract was administered to improve the appetite of the animal.

### 4. Conclusion

Toxicity of the *Colocasia* plant leaves poisoning in a crossbred cattle and its management is discussed here. Although no proper literature was present for *Colocasia* plant leaves toxicity treatment in ruminant, so an attempt was made to save the life of the animal with a very few literature present and clinical symptom depicted by the affected cattle.

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