

Case Study

<https://doi.org/10.20546/ijcmas.2018.710.161>

Urea Poisoning in a Non-Descript Goat: A Case Report

J.J. Parmar*, Neha Rao, D.B. Sadhu, A.I. Shah and D.M. Patel

Veterinary Clinical Complex, College of Veterinary Science and Animal Husbandry, Anand
Agricultural University, Anand-188001, Gujarat, India

*Corresponding author

ABSTRACT

Keywords

Areca nut, UHPLC,
Redox titration,
Vitamin B₆,
Vitamin C

Article Info

Accepted:
12 September 2018
Available Online:
10 October 2018

A seven year old female goat weighing 33 kg was presented with history of ingestion of unknown of Urea fertilizer before half an hour. Clinically animal was active and physiological parameters like rectal temperature and respiration rates were within normal range. Tachycardia and mild bloat with reduced rumen motility was also noted. The goat was given Inj. Normal Saline@ 25ml/kg body weight along with Inj. Dexamethasone@ 2mg/kg, Inj. Atropine Sulphate@ 0.02mg/kg body weight intravenous. Inj. Enrofloxacin@ 2.5mg/kg body weight intramuscular was given. Activated Charcoal 30 ml was given orally. Next day animal was presented without signs of bloat and all the physiological parameters were within normal range.

Introduction

Agricultural fertilizers containing ammonium nitrate and urea cause toxicological hazards to livestock after ingestion.

Due to rapid production of excessive quantities of ammonia resulting in hyperammonemia (Campagnolo *et al.*, 2005). Urea is used as a source of non-protein

nitrogen feed supplement to synthesize protein by rumen microflora to ammonia but when more urea is consumed than free ammonia circulate in the blood leading to poisoning which can occur rapidly from a few minutes to four hours after urea consumption (Parkes *et al.*, 2011).

This paper presents case report of urea poisoning in a non-descript goat.

Case history and Observations

A seven year old female goat weighing 33 kg was presented under Emergency at Veterinary Clinical Complex, Veterinary College, Anand with history of ingestion of unknown of Urea fertilizer before half an hour. Clinically animal was active and physiological parameters like rectal temperature and respiration rates were within normal range. Tachycardia and mild bloat with reduced rumen motility was also noted.

Treatment and Discussion

The goat was given Inj. Normal Saline@ 25ml/kg body weight along with Inj. Dexamethasone@ 2mg/kg, Inj. Atropine Sulphate@ 0.02mg/kg body weight intravenous. Inj. Enrofloxacin@ 2.5mg/kg body weight intramuscular was given. Activated Charcoal 30 ml was given orally. Next day animal was presented without signs of bloat and all the physiological parameters were within normal range. The rumen microbionts have the ability to hydrolyze urea into ammonium (NH₄⁺) and ammoniac (NH₃) to synthesize their own protein (Aytekin *et al.*, 2011). Edjtehadi *et al.*, (1978) fed urea to sheep and found increased respiration and pulse rates along with reduced rumen motility with bloat and the sheep died within 60 to 165 min after receiving urea @ 0.5 to 0.75 g/kg body weight. In our case animal had tachycardia and reduced rumen motility and mild bloat without any other symptoms indicating low dose ingestion of urea than the fatal dose. Sharma *et al.*, (2017) reported a case of acute urea toxicity in non-

descript pregnant buffalo treated for three days with Inj. Normal Saline along with other medications and oral medicines for seven days while in our case animal showed improvement at very next day after the treatment. Nitrogen based farm fertilizers are harmful to ruminants upon ingestion in higher amounts so animal owners and farmers need to take extra care to reduce accidental ingestion in animal body and this can reduce toxicity in animals.

References

- Aytekin, I., Onmaz, A.C., Ulucan, A., and Alp, H. (2011). Effects of accidental ammonium sulphate poisoning on antioxidant / oxidant status in lambs. *Revue Med. Vet.*, 162 (7): 346-351.
- Campagnolo, E. R., Steve Kaste, M. S. and Banerjee, M. (2002). Accidental ammonia exposure to country fair show livestock due to contaminated drinking water. *Vet Human Toxicol*, 44(5): 282-285.
- Edjtehadi, M., Szabuniewicz, M. and Emmanuel, B. (1978). Acute urea toxicity in sheep. *Can. J. comp. Med.*, 42:63-68.
- Parkes, H., Shilton, C., Darwin, Eccles, J. and Katherine (2011). Urea poisoning in cattle. *Northern Territory Government*: 1-3. www.nt.gov.au/d.
- Sharma, S. K., Monika Joshi, Kuldeep Kumar and Parmjeet (2017). Acute urea poisoning in buffaloes: Case Study. *Research & Reviews: Journal of Veterinary Sciences*, 3(1):1-3.

How to cite this article:

Gurumurthy, B.R. and Naik, M.K. 2018. Techniques for Determination of Vitamin B₆, Vitamin C and Variability in Areca Nut (*Areca catechu*) Samples of Karnataka, India. *Int.J.Curr.Microbiol.App.Sci*. 7(10): 1448-1449. doi: <https://doi.org/10.20546/ijcmas.2018.710.161>