ECRONICON OPEN ACCESS

EC VETERINARY SCIENCE
Case Report

Successful Treatment of *Lantana camara* Poisoning in Sheep

Tawheed Ahmad Shafi[1]*, Siddiqui MFMF[1], Sakhre MP[1], Syed AM[2], Borikar ST[1] and Digraskar SU[1]

[1]*Department of Veterinary Medicine, College of Veterinary and Animal Sciences, MAFSU, Parbhani, Maharashtra, India*

[2]*Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, MAFSU, Parbhani, Maharashtra, India*

***Corresponding Author**: Tawheed Ahmad Shafi, Assistant Professor, Department of Veterinary Medicine, College of Veterinary and Animal Sciences, MAFSU, Parbhani, Maharashtra, India.

Received: December 18, 2019; **Published:** January 30, 2020

Abstract

Two adult ewes were presented to Department of Veterinary Medicine, College of Veterinary and Animal Sciences, Parbhani (India), with a history of edema and scratching of the ears, dullness, depression and shade seeking behavior. As per owner's revelation the sheep had grazed in a field containing plenty of *Lantana camara* plants and have ingested a lot, accidently. The clinical investigations revealed swelling and reddening of the ears to be more marked at the base of ear lobes and also at upper eye brows. The sheep were severely depressed, anorexic, with lesions of photosensitization along the supine region of the body. Mucus membranes were severely congested and icteric. The physiological parameters were within the normal range. *Lantana camara* poison mainly targets liver and kidney. The sheep were treated with 20% dextrose solution, multivitamins, liver extracts, ciprofloxacin, liquid paraffin orally and topical antibiotic cream for three days. Both the sheep responded well to the treatment regimen.

Keywords: *Lantana camara; Photosensitization; Icteric; Dextrose; Liver Extracts*

Introduction

Lantana camara (locally known as Bara Phulnoo) belongs to family Verbenaceae is an exotic ornamental shrub, introduced into India in the nineteenth century and has encroached upon large parts of the pastures in India. Some important species of the *Lantana* are *L. camara, L. indica, L. crenulata, L. trifolia, L. lilacina*, *L. involucrata* and *L. sellowiance* among which *L. camara* has been found to the most widespread and toxic to livestock [1-3]. Three different varieties of *Lantana*, viz., with red, pink, and white flowers, are found in India, among which red flower variety-*Lantana camara* Var aculeate is the most prevalent. Its toxicity to livestock was first reported from Australia by Tucker [3] and also reported from other parts of the world by various workers [4-11]. *Lantana camara* is a weed that is toxic to livestock and all of its varieties should be treated as poisonous to livestock; however red flowered varieties and few white and pink flowered varieties are thought to be the most toxic. Poisoning mainly occurs when stock unfamiliar with the plant are introduced to areas having *Lantana* weeds and toxicity occurs if animal consumes one per cent or more than its body weight depending on the toxin content of the *Lantana* eaten. Toxic principles of *Lantana* include triterpene acids, lantadene A (rehmannic acid), lantadene B and their reduced forms.

Case History

Two adult ewes were presented to the department of Veterinary Medicine with a history of edema, scratching of the ears, dullness, depression and shade seeking behavior. As per owner's revelation the sheep had grazed in a field containing plenty of *Lantana camara* plants.

Clinical Observations

On clinical examination swelling and reddening of the ears was observed to be more marked at the base of ear lobes and also at upper eye brows (Figure 1-3). The sheep were severely depressed, anorexic, with lesions of photosensitization along the supine region of the body. Mucus membranes were severely congested and icteric. The physiological parameters were within the normal range. Biochemical observations are given in the table 1 below.

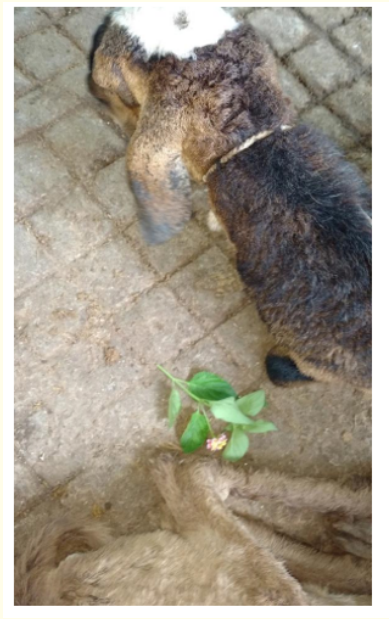

Figure 1: *Depressed sheep having marked swelling and reddening of the ears and below is Lantana camara presented by the farmer.*

Figure 2: *Edematous swelling of the ears more marked at the base of ear lobes.*

Figure 3: *Severely congested and icteric mucus membranes.*

Parameter	Case 1	Case 2
Total bilirubin	2.5 mg/dl	2.9 mg/dl
Direct bilirubin	1.5 mg/dl	1.7 mg/dl
Indirect bilirubin	1 mg/dl	1.2 mg/dl
SGOT	105 U/L	122 U/L
SGPT	90 U/L	84 U/L
Creatinine	2.5 mg/dl	2.9 mg/dl
BUN	60 mg/dl	55 mg/dl

Table 1: *Biochemical parameters of Lantana affected sheep.*

Treatment

The sheep were treated for three days, with 500 ml of 20% dextrose solution followed by 1000 ml DNS. Also 2 ml each of multivitamins and liver extracts were given parenterally. Ciprofloxacin @ 5 mg/ kg B. W was given intra-muscularly and also 100 ml liquid paraffin orally was given to aid in purgation and evacuation of unabsorbed poison in the gastro-intestinal tract. Topical antibiotic cream for local application was advised to address the skin lesions.

Results and Discussion

Both the sheep responded well to the treatment regimen. The recovery in *Lantana* poisoning is good, provided animals are treated quickly. Delay reduces the effectiveness of treatment, because kidney and liver function gets seriously altered as evidenced from values given in table 1. Increased bilirubin values due to *Lantana* poisoning have been reported as regular observation by other workers as well [12-15]. Also, other liver parameters have been observed to be elevated due to *Lantana* poisoning [14,15]. These changes have been mainly attributed to early cellular degenerative change in the liver following *Lantana* intoxication leading to extensive vacuolation of the cytoplasm of the affected cells and extensive necrosis of parenchymal cells [16,17]. The increase in creatinine and bilirubin in affected sheep has been reported by other workers as well and has been attributed to extensive vacuolation of tubular epithelium with pyknosis

and necrosis of the epithelium of proximal convoluted tubules [18]. Clinical manifestations of *Lantana* poisoning vary, depending on the amount and type of *Lantana* consumed and the intensity of sunlight to which the animals have been exposed.

Conclusion

Both the sheep responded well to the treatment regimen. The recovery in *Lantana* poisoning is good, provided animals are treated early to exposure. Delay reduces the effectiveness of treatment, because kidney and liver function gets seriously altered. Clinical manifestations of *Lantana* poisoning vary, depending on the amount and type of *Lantana* consumed and the intensity of sunlight to which the animals have been exposed.

Bibliography

1. A Seawright. "Studies on experimental intoxication of sheep with *Lantana* camara". *Australian Veterinary Journal* 39 (1963): 340-344.
2. Yadava JNS and Verma NS. "An outbreak of *lantana* poisoning in domesticated animals". *Indian Veterinary Journal* (1978): 1-9.
3. Tucker G. "Annual report of the Department of Agriculture Queensland". Australia (1910-1911): 25.
4. De Ahiza AS. "*Lantana* camara poisoning in cattle in Mexico". *Veterinary Record* 86 (1970): 628 .
5. Lal M and Kalra DB. "*Lantana* poisoning in domesticated animals". *Indian Veterinary Journal* 37 (1960): 263-269.
6. Pound CJ. "Report of the Department of Agriculture". Queensland, 1913-1914: 109.
7. LBM Prasad., *et al*. "An etiological study of yellow disease in cattle in Bihar". *Indian Veterinary Journal* 38 (1961): 452464.
8. Sanders DA. "*Lantana* poisoning in cattle". *Journal of the American Veterinary Medical Association* 109 (1946): 139-144.
9. Seddon HR., *et al*. "Studies on experimental toxicity of *lantana*, spp". *Veterinary Medicine: Research and Reports* (1927): 594-598.
10. Silva FDNA and Couto ES. Experimental poisoning of cattle by *Lantana* camara in the state of Pernambuco, Arq Esc Vet Univ Fed Minas Gerias 23 (1971): 77-89.
11. Steyn DG and Van Der Walt SJ. "Recent investigations into the toxicity of known and unknown poisonous plants of South Africa. XI, Onderstepoort". *Journal of Veterinary Science and Animal Husbandry* 16 (1941): 121-147.
12. Agarwala ON., *et al*. "Serum bilirubin and icteric index values in cattle and sheep in experimental *lantana* poisoning". *Curro ScL* 31 (1962): 506-507.
13. Swivedi SK., *et al*. "Clinical and biochemical studies in *lantana* poisoning in ruminants". *The Indian Journal of Animal Sciences* 41 (1971): 948-953.
14. Gopinath C and Ford EJH. "The effect of *Lantana* camara on the liver of sheep". *The Journal of Pathology* 99 (1969): 75-85.
15. Seawright AA and Sferco FG. "Progressive microscopic changes in the liver after *lantana* poisoning in calves". Publication der IV International Tagung der Weltgesselschaft fur Buiatrik 4.9 (1966).
16. Seawright AA. "Studies on pathology of experimental *lantana* (*Lantana* camara L.) poisoning of sheep". *Veterinary Pathology* 1 (1964): 504-529.

17. Uppal RP and Paul BS. "Assessment of hepatic dysfunction in experimental *lantana* poisoning in sheep". *Indian Veterinary Journal* 55 (1978): 798-802.

18. Seawright AA and Allen JG. "Pathology of the liver and kidney in *lantana* poisoning of cattle". *Australian Veterinary Journal* 48 (1972): 323-331.

Volume 5 Issue 2 February 2020