LANTANA CAMERA ASSOCIATED HEPATIC AND RENAL TOXICITY IN BULLOCKS – A CASE REPORT

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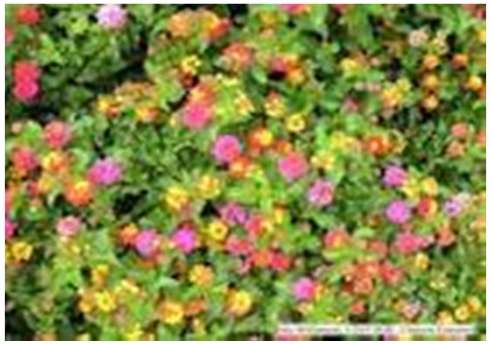
Overview



- Lantana was introduced in India in 1807 as ornamental herb.
- Species effected: cattle, sheep, goat, horses, pigs, wild animals, rabbit, guinea pigs
- 1st poisoning reported in Australia (Townville) in 1910
- 1st Incidences of Poisoning in buffalo (Kangra valley, H.P.), sheep, goats (Rampur bushier)
- Toxic principle: Lantadine A,B,C,D (Triterpanoid) effect bile canaliculi
- Known to cause Hepatotoxicity, nephrotoxicity and photosensitization.

Toxicodynamics

Ingestion of plant

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Absorption from rumen and S I

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Liver

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Metabolism

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Secretion of metabolates in to bile

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Injury to bile canalicular membrane

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Cholestasis, hepatitis

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Retention of bilirubin, phylloerythrin and ruminal stasis

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Jaundice Photosensitization pH alkaline (NH_4 &N_2)

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Renal damage

Symptoms

- Anorexia
- Ruminal motility ceases up after 6hr and atony seen after 24 hrs
- Complete constipation/impaction
- Rumination ceased
- Dehydration
- Icterus after 2-4 days
- Skin changes due photosensitization
- Death due to hepatic and renal failure

Diagnosis

- History
- Clinical sign
- Laboratory test:

  Liver: ALT, AST, ALP, GGT & Bilirubin

  kidney: BUN & Creatinine,

- HPLC: Diagnosis of lantadine in the ruminal content, peaks on chromatogram 2.43 min and 7.01 min (**Narendra Vyas, and Ameeta Argal, 2014**)
- Thin layer chromatography

PARTICULARS OF OWNER & ANIMAL

- Case No. 69 & 70 Date: 11-07-2014
- Owner Particulars: S. Ravi,

  Chaulamaddi Villaga, Korutla Mandal

  Karimnagar district, Telangana.
- Animal Particulars:

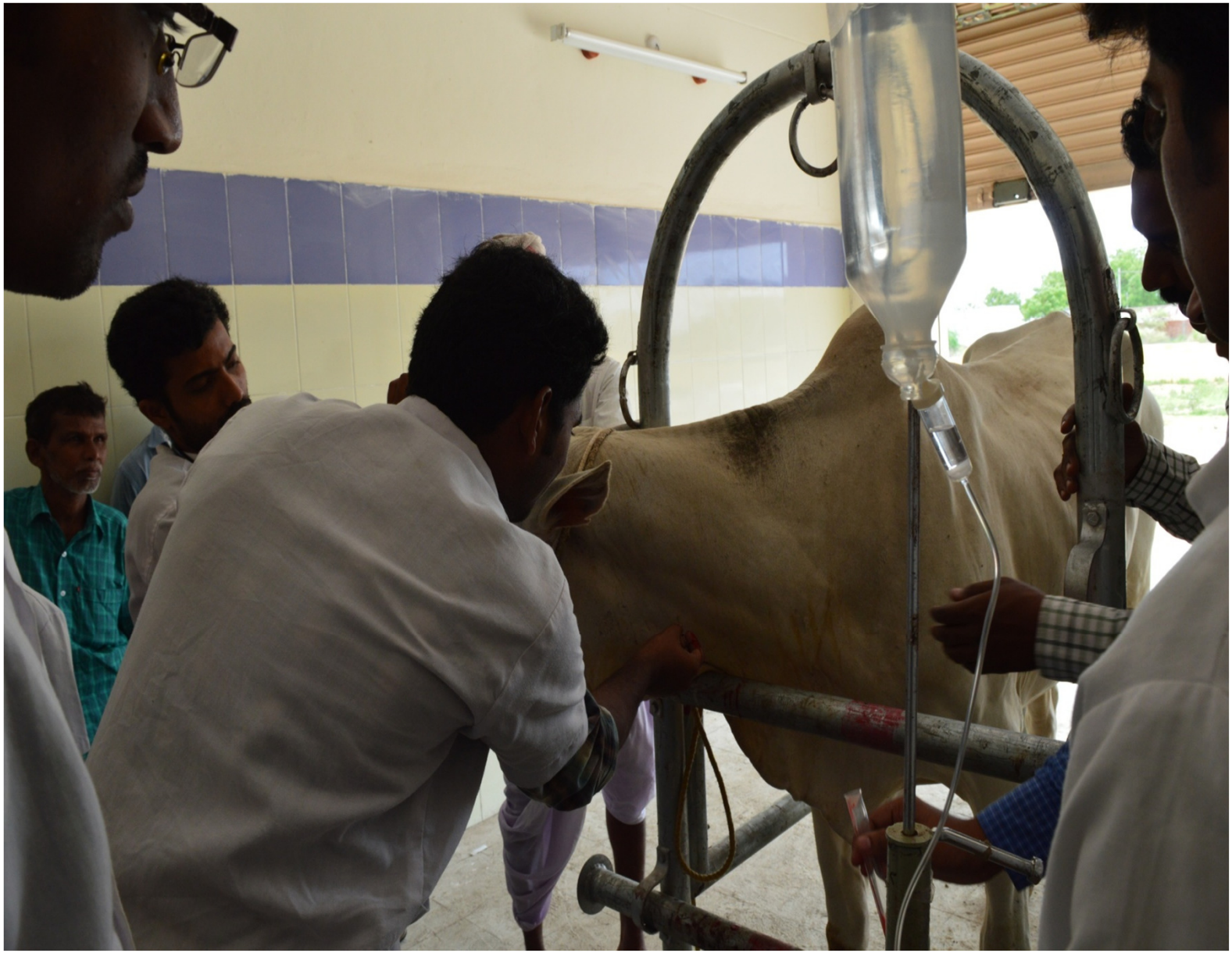
  Species : Bovine Breed : ND

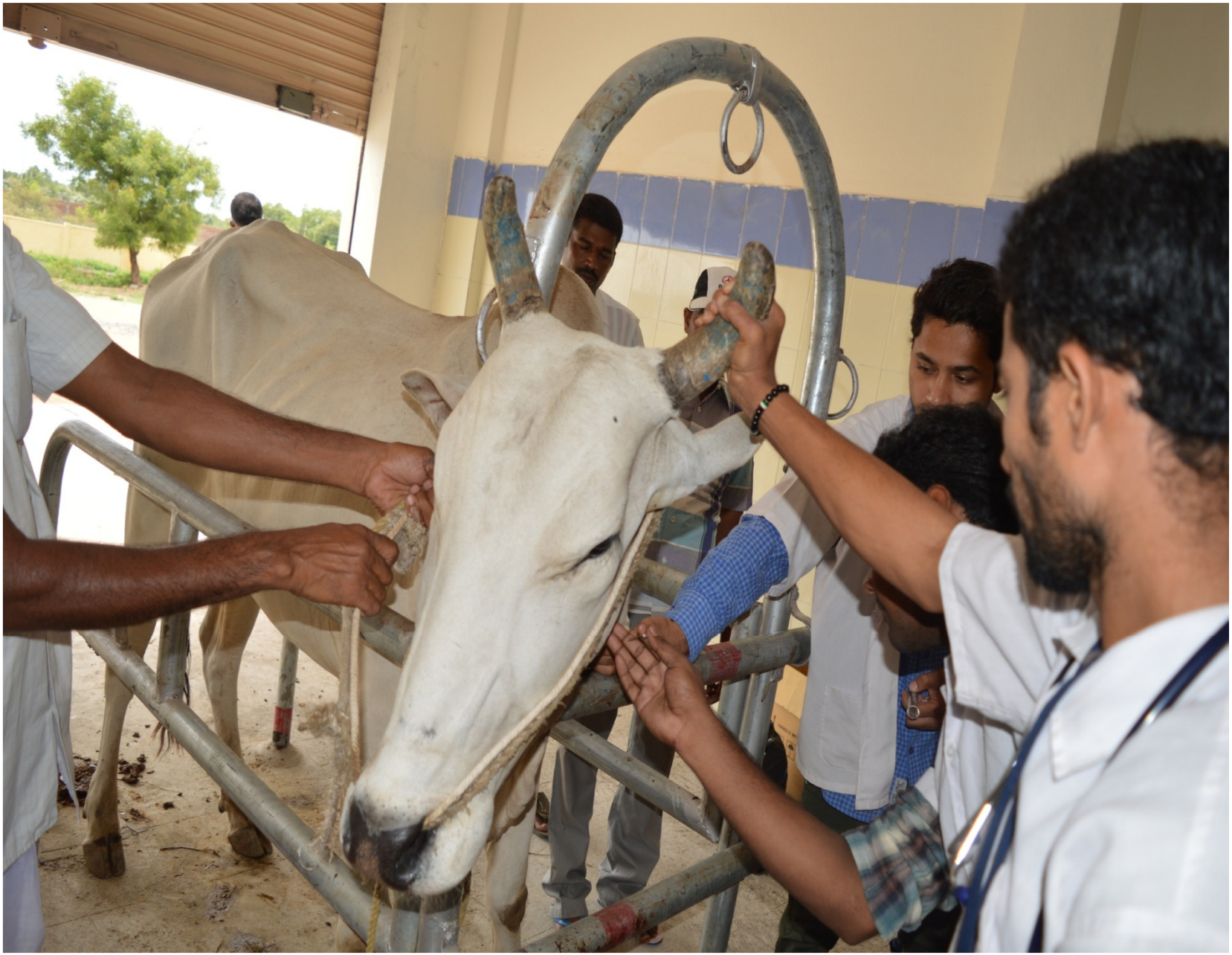
  Sex : Male (Bullock) Age : 10 years

  Colour : White

History

- Two Bullock were brought to the Teaching Veterinary Clinical Complex, College of Veterinary Science, Korutla with the history of anorexia and voiding scanty faeces since 3 days .
- Owner has reported that 4 days back, unknowingly two bulls had entered the near by village and were there for one entire day .
- Next day owner found them grazing on lantana plants.
- From that day onwards they were not taking feed and voiding scanty faeces.
- Owner has taken them to near by Veterinary hospital for 2 days but there was no improvement. There treated with rumentorics and B-complex injections.





CLINCAL EXAMINATION

- Detailed clinical examination has revealed,

Temp	: 102 ^{0}F
Pulse	: 84/ minute
Heart rate	: 47 beats/ minute
Resp. rate	: 37/ minute
C.M.M.	: **Icteric** (Moreicteric in one animal)
B.M.M.	: Normal
Rumen motility	: Atony
Rumen liquor pH:	**8.0**
Lymph nodes	: Normal

General body condition : Lean and severely dehydrated

Demeanor : Dull and very weak

- Profuse frothy salivation also noticed
- We have collected dung, urine and blood.
- Faecal sample is negative for parasitic ova
- Peripheral blood smear is negative for haemoprotozoans
- Urine examination:
  - Colour : Deep yellow
  - Odour : Slight pungent
  - Hay's test : positive for bile salts

SERUM ANALYSIS

- ALT values (IU): 74.3 IU/micro lit. (14-38)
- ALP values (IU): 235.3 IU/micro lit. (90-170)
- BUN values (mg%): 41.26 mg (20-30)
- Serum Creatinine (mg %): 4.39 mg % (1-2)
- Serum Bilirubin (mg %): 0.84mg % (0.1-0.5)
- Indicating both hepatic and renal insufficiency.

TREATMENT

- Animals are treated with the following medication
  - ❖ Inj. DNS 5D @ 1350 mL i.v
  - ❖ Admin. of activated charcoal @1.0kg in 10 liters of water
  - ❖ Magnesium sulphate @50gram p.o

    1st Day
  - ❖ Inj. Histanil 20 mL i.m
  - ❖ Inj. Enrofloxacin 20 mL i.m
  - ❖ Inj. Melonex 15 mL i.m

    5 Days
  - ❖ Inj. Belamyl 20 mL i.m
  - ❖ Rumentas bolus @ 4 boli daily for 3 days
  - ❖ Prescribed Liv-52 syrup @ 50 ml orally BID for 15 days.

- Bullocks started defaecating by 2nd day and started taking green grass from 4th day onwards and recovered fully by 7th day.

THANKYOU