Lantana camara poisoning in animas: A brief overview

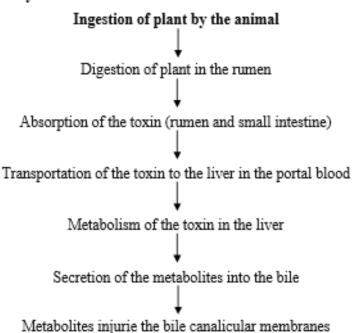
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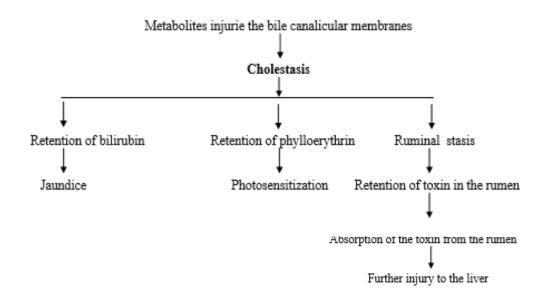
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Lantana poisoning in animals: Compared to Bos indicus cattle, Bos tarsus cattle are more vulnerable to lantana poisoning. The occurrence ranges from isolated cases to significant epidemics during times of fodder shortage brought on by drought or flooding. Animals have been known to become ill from lantana poisoning while being transported from lantana-free areas to lantanainfested areas. Because afflicted instances from distant locations are rarely noticed by scientists and physicians, the recorded cases only represent a small portion of the overall issue.

Mechanism of toxicity



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Clinical pathology: When guinea pigs are given lantana, the liver's dry weight, protein, and DNA content drop, while its lipid content rises. In the liver mitochondria, microsomes, lysosomes, canalicular plasma membrane, and cytosol of lantana-poisoned guinea pigs, biochemical alterations have been noted. Plasma membrane, microsomes, and mitochondria are all cholesterol-enriched. Oxidative enzyme activities in the mitochondria or cytoplasm are increased. On the other hand, drug metabolism-related microsomal enzyme activities are downregulated. The cytosolic glutathione-Stransferase activity is also markedly reduced.

The decreased production of lipid peroxides by a number of tissues in guinea pigs exposed to lantana is attributable to hyperbilirubinemia and increased glutathione peroxidase activity. Lysosomal enzymes are leaking from the liver of Lantana-impaired guinea pigs. Different blood components from guinea pigs that have consumed lantana showed significant changes. Plasma bilirubin, particularly of the conjugated kind, haemoglobin, urea, and the number of erythrocytes and leukocytes all increase.

Post-mortem lesions: The liver is quite enlarged and yellow in colour. There is significant gallbladder enlargement. Typically, the rumen's contents are dry and undigested. Faeces are impacted in the colon right next to the spiral. Adrenals increase, and the cortex's thickening turns yellow.

Diagnosis:

- I. History
- II. Clinical signs
- III. Clinical pathology

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IV. Post-mortem lesions

Treatment: No specific antidote is available. Only symptomatic treatment need to be given:

- I. Stop further exposure of the animals to noxious weed.
- II. Keep the animal in a well shaded areas away from direct sunlight if photosensitization develops.
- III. Administer intravenously excessive amounts of glucose saline solution.
- IV. Give hepatoprotective agents to tone up the liver. Systematic studies on the effect of antihepatotoxic or hepatoprotective agents in lantana poisoning have not been done.
- V. Remove the toxic ruminal contents by rumenotomy.
- VI. Give saline purgatives to facilitate removal of gastro-intestinal contents.
- VII. Replace the ruminal contents with a suspension containing electrolytes, chaffed forage and rumen liquor from a healthy animal.
- VIII. Administer a single dose of activated charcoal (5 g/kg) to bind the toxin in the rumen and prevent further absorption. Lantana poisoned cattle can be successfully treated by giving 2.5 kg of powdered activated charcoal in 20 litres of multiple electrolyte solution by stomach tube while in sheep, 0.5 kg charcoal in four litres of fluid is enough.
- IX. Administer H, antihistaminics and antibiotics to take care of the photosensitization lesions and secondary bacterial infections.

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