

Basic Health Sciences

Poster

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Histological effects of Tamarind seed extract against muscle, liver and renal alterations induced envenomation with King Cobra venom in mice

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Introduction: The objective of the present study is to investigate protective effects of the tamarind seed extract on the adverse histological reaction of venoms of the King Cobra.

Methods: Twenty healthy, mature male mice were randomly divided into 4 groups with 5 mice in each. The control group (C) was injected with 1 ml of normal saline. The second group (V) was injected subcutaneously with a single dose of 24.96 μ g/20g King Cobra venom (KCV) solution. The third group (TV1) was injected with the same dose of KCV solution and 10mg/20g of Tamarind seed extract (TSE). The fourth group (TV2) was injected with the same dose of KCV solution and 15mg/20g TSE solution. The animals were sacrificed after 24 hours of injection of the solution. Fragments of muscle, kidney and liver were fixed in 10% buffered formalin, and processed for light microscopical studies.

Results: Mice of group V, treated with KCV solution showed severe degeneration, disorganization and myonecrosis in the muscle fibers. The liver revealed degenerative changes in most of the hepatic lobules and dilatation in the central veins and the sinusoids. The kidney revealed shrunken glomeruli, dilatation of Bowman capsule and degenerative changes in the renal tubules. Treatment with TSE reduced the histopathological changes induced by the King Cobra venom in the muscles, livers and kidneys and the improvement were proportional to the applied dose of the TSE.

Conclusions: The observation is indicating that tamarind seed extract prevents adverse histological changes in the muscle, liver and kidney.

KEYWORDS: Kidney, King Cobra Venom, liver, muscle, rats, Tamarind seed