

Toxicity of Solenstemma Argel (Hargal) on Nubian Goats

Authors : Amna B. Medani, M. A. Elbadwi Samia, Hassan A. Khalid

Abstract : In our study, nine Nubian goat kids were obtained, allotted into three groups, and healthily adapted in pens within the premises of the Veterinary Teaching Hospital, University of Khartoum to be given the oral doses of the dried herb shoots at daily doses of 1 and 5 gm/kg/day with drinking water, while the kids of the control group were left undosed. All goats were slaughtered, if not died, after 35 days. S. argel at the given doses caused signs of arched posture, ruffled hair, shivering and paralysis of limbs. On post mortem, lesions were seen to be hepatic fatty changes, renal necrosis, congested lungs and inflamed intestines. Serum chemistry investigations revealed significant increase ($P < 0.05-0.01$) in the activities of ALP (alkaline phosphates) and AST (aspartate-aminotransferase) in goats dosed with 5 gm /kg/ day. Also observed were significant increases in inorganic phosphorus and urea concentrations ($P < 0.05-0.01$) in both dosed goat groups. Other investigations including the activity of GGT (gamma glutamyltransferase), creatinine, calcium, total protein and albumin illustrated no significant difference from that of the undosed controls. On haematological evaluation, the goat kids dosed with 5 gm/kg/day showed a decrease in haemoglobin concentration and red blood cells count ($P < 0.05-0.01$). Both groups of dosed goats showed a higher packed cell volume values of ($P < 0.05$) when compared to the control goats. Mean corpuscular haemoglobin values were not different from those of the control kids. S. argel at the given doses caused signs of arched posture, ruffled hair, shivering and paralysis of limbs. On post mortem, lesions were seen to be hepatic fatty changes, renal necrosis, congested lungs and inflamed intestines. Serum chemistry investigations revealed significant increase ($P < 0.05-0.01$) in the activities of ALP (alkaline phosphates) and AST (aspartate-aminotransferase) in goats dosed with 5 gm /kg/ day. Also observed were significant increases in inorganic phosphorus and urea concentrations ($P < 0.05-0.01$) in both dosed goat groups. Other investigations including the activity of GGT (gamma-glutamyltransferase), creatinine, calcium, total protein and albumin illustrated no significant difference from that of the undosed controls. calcium, total protein and albumin illustrated no significant difference from that of the undosed controls. On haematological evaluation, the goat kids dosed with 5 gm/kg/day showed a decrease in haemoglobin concentration and red blood cells count ($P < 0.05-0.01$). Both groups of dosed goats showed a higher packed cell volume values of ($P < 0.05$) when compared to the control goats. Mean corpuscular haemoglobin values were not different from those of the control kids. Data obtained were then discussed to find S. argel irritable to intestines, toxic to the kidney and liver and a haematological mild toxin. Suggestions for future were forwarded.

Keywords : hargal, nubian goats, solenstemma argel, toxicity

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020