LYSOSOMAL STORAGE DISEASE CAUSED BY *Sida carpinifolia* POISONING IN GOATS AND HORSES

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A neurological disease characterized by ataxia, hypermetria, hyperesthesia and muscle tremors of the head and neck was observed for 2 years in a flock of 28 Anglo-Nubian and Saanen goats on a farm with 5 hectares of pasture. Six newborns died during the first week of life and 5 abortions were recorded. The predominant plant in the pasture was *Sida carpinifolia*. The disease was reproduced experimentally in two goats by administration of this plant. Three goats with spontaneous disease and the two experimental cases were euthanatised and necropsied. In the equine cases, the clinical signs in the affected ponies included stiff gait, generalized muscle tremors, signs of abdominal pain manifested by kicking at the belly, rolling, falling and moaning, recumbence and death. Three out of eleven ponies died. Deaths occurred within 24 hours after the onset of the clinical signs. The animals were moved from a paddock with shortage of pasture to a 3 ha pasture. Deaths occurred after 15-20 days the animals were introduced in the new area. In the paddock they were held during that period, there were large amounts of *S. carpinifolia* with evidence of having been consumed by the ponies. Deaths stopped after the animals were moved from that area and stopped consuming the plant. No significant gross lesions were observed. Fragments of several organs including the central nervous system were processed for histopathology. Small fragments of the cerebellar cortex, liver and pancreas of two spontaneous cases and two experimental poisoned goats were processed for electron microscopy. Multiple cytoplasm vacuoles in hepatocytes, acinar pancreatic cells and neurons, especially Purkinje cells, were the most striking microscopic lesions in the five animals. Ultrastructural changes included membrane bound vacuoles in hepatocytes, Kupffer cells, acinar pancreatic cells, Purkinje cells, and in the small neurons of the granular cell layer of the cerebellum. Embedded paraffin goat tissue sections of the cerebellum and pancreas were submitted to lectin histochemical procedures. In the case of the horses, cerebellum and Gasserian ganglia were processed by lectin histochemistry. The vacuoles in different cells reacted strongly to the following lectins: *Concanavalia ensiformis*, *Triticum vulgaris*, and succinylated- *Triticum vulgaris*. The pattern of staining, coincides with the data reported for both swainsonine toxicosis and inherited mannosidosis.