CPB 69700 RESEARCH SEMINAR

DEPARTMENT OF COMPARATIVE PATHOBIOLOGY

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"Chronic Yew Toxicity In A Holstein Heifer"

Abstract:

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Twenty-six 5-month-old Holstein calves were accidentally exposed to discarded branches of yew bushes (*Taxus* sp.). Several calves were found dead approximately 24 hours after exposure; however, a few calves died several days after exposure. One calf died 18 days after the initial exposure to *Taxus* spp. and was examined on the farm via necropsy. Gross lesions included ascites and dilated and flaccid myocardial ventricles. Sections of formalin-fixed heart were submitted to the Animal Disease Diagnostic Laboratory for histopathologic examination; fresh rumen contents were also submitted for toxicologic testing. Histologically, broad swaths of myocardium were replaced by fibrous connective tissue, suggesting previous myocardial necrosis. Minimal mononuclear inflammation was also scattered throughout areas of fibrosis. Rumen contents were submitted for qualitative analysis. Taxines, the toxic components of *Taxus* spp., were identified in the rumen contents. The heifer's diet included 4 pounds per day of a grain mixture balanced by a professional nutritionist and was devoid of ionophores. The heifer grazed an orchard grass and clover pasture, and known cardiotoxic plants in Indiana, including *Eupatorium* spp., were not available on the pasture where the animal was kept. Based on the clinical history, the gross and histologic lesions, and the identification of taxines in the rumen contents, chronic yew toxicity was considered the cause of death in this calf.

Ingestion of taxines is known to cause acute and subacute toxicity in humans and animals; however, a chronic clinical course and severe histologic lesions have not been previously associated with yew toxicity. **Although only one calf was necropsied, this case suggests that yew toxicity can result in a prolonged clinical course and can cause histologic myocardial lesions.**