

## Investigation of Canine Liver Disease

- ALT elevations of 2 to 3 times reference range often are found with vacuolar hepatopathy on FNA or biopsy. Vacuolar changes are non-specific and often increase in the absence of primary liver disease. Periodontal disease, medications, herbal or alternative therapies and topical treatments are common causes of mild ALT elevations.
- ALT = hepatocellular injury
- ALKP = cholestasis and induction
- More than half of dogs with > fourfold elevations of ALKP are diagnosed with Cushing's disease, less than half with cholestatic disease.
- Common differentials for elevated ALKP are Cushing's, hepatocellular adenoma, vacuolar hepatopathies and lymphosarcoma.
- Include sex hormone profiles in pre and post ACTH testing samples in Cushing's suspects.
- With high ALKP and no signs of Cushing's, go to radiography and ultrasound.
- GGT = Induction and cholestasis
- Bile acid assays can be interpreted with confidence in animals with suspected liver disease. However, a number of normal animals will have elevated bile acids.
- If bilirubin is elevated, function tests are not needed
- Not needed were there is obvious liver disease or liver mass.
- In terrier breeds, elevated bile acids common due to microvascular dysplasia.
- Prior to any biopsy, evaluation of the clotting system is advised. Ideally, this would include a PT, an APTT, a BMBT and a platelet count. Although less sensitive, an ACT is more easily run in clinic than the PT and APTT. Inexpensive test kits for BMBT are available from most veterinary blood banks and other commercial sources. As a minimum, an ACT and platelet count should identify most patients with a bleeding tendency.



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