A Better Liver Function Test?

The authors evaluated three methods of measuring urine bile acids (UBAs) and compared them for diagnostic accuracy with the accepted liver diagnostic test of serum bile acids (SBAs). Fifteen healthy dogs, 102 dogs with liver disease, and 9 dogs with signs of liver disease that were found to have nonhepatic disorders were studied. To avoid having to do 24-hour urine collections, the values of sulfated UBAs and nonsulfated UBAs were standardized with urine-creatinine concentrations. The nonsulfated UBA-to-creatinine ratio and sulfated UBA plus nonsulfated UBA-to-creatinine ratio tests had the best diagnostic value of the UBA tests. The authors concluded that UBA could be measured in dogs with sufficient repeatability and accuracy for clinical use. In addition, the nonsulfated UBA-to-creatinine ratio and the sulfated UBA plus the nonsulfated UBA-to-creatinine ratio identified dogs with hepatic disorders nearly as well as the SBA test.

COMMENTARY: The SBA test, which involves a 12-hour fast and paired samples 2 hours apart, has been an accepted and useful tool to identify patients with liver disorders. Sampling is somewhat inconvenient, and results can be affected by gastric emptying, enteric mobility, gallbladder contractility, bile flow, and spontaneous circumvention of gallbladder bile storage and concentration. The use of random urine samples is convenient and avoids the technical problems and sources for error of measuring serum BAs. In addition, the data reported here indicates the nonsulfated UBA and sulfated UBA plus nonsulfated UBA tests have adequate specificity and positive predictive value to use random urine samples for diagnostic purposes. — Ralph Barrett, DVM, DACVIM

Editor's Note: A report of this work presented at the World Small Animal Veterinary Association meeting was previously abstracted in Capsules (February 2003). The study has now stood the test of peer review.