Advantages of Glutamate Dehydrogenase versus Alanine Transaminase as a Biomarker for Feline and Canine Hepatopathy

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Abstract

Introduction: Effectiveness of glutamate dehydrogenase (GLD) as a biomarker for hepatopathy is well-known in rats, horses, cattle, and dogs, but has not been studied in cats. However, GLD has been previously shown to be highly enriched in liver of cats and other mammals, compared to other tissues and is therefore predicted to be an effective hepatic biomarker.

Objective: Validate GLD in cats by establishing reference ranges and determining its effectiveness in diagnosis of hepatopathy in cats compared to dogs.

Methods: Serum GLD reference range values were established in both cats and dogs by screening clinical cases for absence of any increase in standard hepatic biomarkers (ALT, aspartate transaminase, gamma-glutamyl transferase [GGT]) and compared to the universal hepatopathy biomarker, alanine transaminase (ALT).

Results: Serum GLD reference range values were established in both cats and dogs. GLD was more expensive than ALT for dogs and cats. However, maximum values in hepatopathy were similar.

Conclusions: GLD is an effective and inexpensive biomarker of hepatic injury in both dogs and cats, and is complementary and additive to ALT for detection of hepatopathy.

Reference