Veterinary Bioscience: Metabolism

WEEK 2 – DETECTING HEPATOBILIARY DISEASE

LECTURER: DR ASTRID OSCOS SNOWBALL

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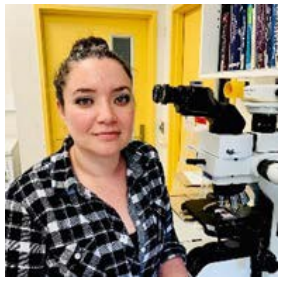

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INTENDED LEARNING OUTCOMES

At the end of this lecture, you should be able to:

- utilise and interpret clinical pathology test results to identify active hepatocellular and biliary disease in the major domestic animal species
- discuss the metabolism of bilirubin and the mechanisms behind hyperbilirubinaemia.

KEYWORDS

alanine aminotransferase (ALT), aspartate aminotransferase (AST), glutamate dehydrogenase (GLDH), sorbitol dehydrogenase (SDH), lactate dehydrogenase (LDH), alkaline phosphatase (ALP), gamma glutamyl transferase (GGT), cholestasis, bilirubin, hyperbilirubinaemia, bilirubinuria, jaundice/icterus

LECTURE 5 – LABORATORY INVESTIGATION OF THE LIVER AND BILIARY SYSTEM 1

The liver is a key organ in the body for metabolism and excretion. Liver disease can have acute (active) and/or chronic manifestations. Laboratory tests afford the opportunity to confirm such diseases and rationally determine appropriate further diagnostic procedures and/or treatment. There is no single laboratory test that adequately identifies liver disease – thus a combination of tests is used to assess the hepatobiliary system.

This lecture will explain how clinical pathology tests assist in the detection of active hepatocellular and biliary disease in the major domestic animal species, with a focus on enzymatic assays which help evaluate hepatocellular injury and cholestasis. Bilirubin metabolism and excretion and the mechanisms and diagnosis of various types of jaundice will be discussed. Specific species variations which affect test selection and interpretation will be identified.

FURTHER READING

Latimer KS. *Duncan and Prasse's Veterinary Laboratory Medicine. Clinical Pathology.* 5th ed. Chapter 7

McGavin MD and Zachary JF (eds). *Pathologic Basis of Veterinary Disease*. 5th ed. Chapter 8

Stockham SL and Scott MA. *Fundamentals of Veterinary Clinical Pathology.* 2nd ed. Chapters 12 and 13