Ammonia Tolerance Test

Test Use

This test can be used to assess liver function, of most use in dogs with hyperbilirubinaemia and also Maltese dogs in general. Bile Acids are of limited value in these situations due to the affects of cholestasis and breed related interference respectively 2.

Protocol

Sample requirements. The animal should be fasted for 12 hours before sample collection. Note that the guidelines below outlining sample collection, storage and transport should be strictly adhered to. Contamination and in vitro production of ammonia within the sample will contribute to unreliable results.

i) Please call the laboratory in advance to allow time for special transport and storage measurements to be prepared.

ii) Check the animal closely for any evidence of hepatic encephalopathy. Note that administering ammonia can exacerbate symptoms. Also assess the rectum and evacuate if necessary.

iii) If the animal is clinically judged to be ready for testing, collect a resting sample into a LiHep tube (1 mL minimum). This sample then needs to be immediately centrifuged, plasma separated and stored on dry ice or crushed ice. Any delay can adversely affect results.

iv) Administer 100 mg/kg of an ammonium chloride solution per rectum, > 5cm proximal to the anal sphincter. The fluid needs to remain in the rectum for a minimum of 5 minutes.

v) Collect a further blood sample into a LiHep tube (1mL minimum) 30 minutes following ammonia administration.

Note this sample also needs to be immediately centrifuged, separated and appropriately stored for transport to the laboratory ASAP.

2. Tisdall PLC, Hunt GB, Tsoukalas G, Malik R. Post-prandial serum bile acid concentrations and ammonia tolerance in Maltese dogs with and without hepatic vascular anomalies. AVJ, 72, Vol 4, 1995; pg 121 - 126