A CASE OF CHOLANGIOHEPATITIS AND IMMUNE MEDIATED HAEMOLYTIC ANEMIA IN A DOG

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Cholangiohepatitis is a rare but potentially fatal condition in dogs. It is characterised by the inflammation of the liver and the bile duct. The present report describes a case of cholangiohepatitis in a nine year old Labrador. signs, laboratory findings and management strategies adopted in a case of cholangiohepatitis with immune mediated haemolytic anemia are discussed.
Key words: Cholangiohepatitis, Dog, Immune mediated haemolytic anemia.

Cholangiohepatitis in dogs is rare and usually associated with suppurative inflammation and ascending biliary tree infection with a wide variety of bacterial organisms (both gram-negative and gram-positive enteric bacteria, *Salmonella*, *Campylobacter jejuni*, coccidiosis). Canine cholangiohepatitis is most commonly associated with disorders causing stasis of bile flow, biliary mucocele formation, cholelithiasis, and surgical manipulations of the biliary tree (Forrester *et al.*, 1992).

Immune mediated hemolytic anemia, (IMHA also called Autoimmune hemolytic anemia AIHA), can be very serious, as it is caused by the dog's immune system targeting and destroying its own red blood cells. In dogs with IMHA, red blood cells are still being manufactured in the bone marrow, but once released into the circulation, they have a shorter-than-normal life span, since they are constantly being attacked and destroyed by abnormal antibodies in the blood. Antibodies are normally formed by the dog's immune system when needed to destroy invading bacteria or viruses. However, with IMHA, the dog's immune system is not working normally and sees its own red blood cells as foreign, and therefore, produces antibodies to destroy them. Left untreated, and even sometimes with appropriate treatment, an estimated 40% to 60% of dogs with IMHA will eventually die from the disease. Treatment should be swift and aggressive. The primary therapeutic goals are to correct the anemia so that the dog's red blood cells can once again transport oxygen to all of its tissues in a normal fashion, and to correct any identifiable underlying disorders that are contributing to the RBC destruction, while maintaining the dog's health until his red blood cell supply can be replenished (Piek *et al.*, 2008 and Piek, 2011).

A nine year old male Labrador was presented to TVCC, Mannuthy, with a complaint of dullness, reduced feed and water intake and coffee coloured urine. Clinical examination revealed icteric mucous membrane, enlarged lymph nodes and temperature of 104.3^0 F. Haematological examination revealed high leukocyte count ($21.7\times10^3/\mu L$), low RBC ($4.74\times10^6/\mu L$) and haemoglobin count (9.5g/dl). Peripheral blood smear was negative for blood parasites and microscopic agglutination test was negative for leptospirosis. Serum creatinine (1.293mg/dl) and serum phosphorous (3.5mg/dl) were within the normal ranges. Elevated aspartate aminotransferase (210.5IU/L), alkaline phosphatase (643.4IU/L), gamma glutamyltransferase (998IU/L), total bilirubin (13.10mg/dl) and direct bilirubin (8.04mg/dl) were recorded. Total protein concentration was within the normal range but hypoalbuminemia (2.2g/dl) was recorded. Anaemia worsened as was recorded by the falling RBC count (4.74 to $2.84\times10^6/\mu L$) and haemoglobin count (9.5 to 5.0 g/dl) during the period of presentation. Immune mediated haemolytic anaemia was diagnosed by direct gamma globulin test using immunochromatography technique (Alvedia, France). Ultrasonography revealed

thickened gall bladder (Fig.1) and presence of free fluid in the abdomen. No significant changes were observed in the liver parenchyma.

Fig.1. Thickened wall of gall bladder

The case was diagnosed as cholangiohepatitis with immune mediated haemolytic anemia based on clinical, haematological, direct gamma globulin test and ultrasound studies. Inj amoxicillin clavulanate @20mg/kg i/v, inj.enrofloxacin @5mg/kg i/v and inj. metronidazole @10mg/kg i/v was administered. Fluid therapy used was Inj D5 100ml i/v and Ringers lactate 100ml i/v due to anaemia. Inj prednisolone @1mg/kg i/m was given as an immune suppressive drug against IMHA. Supplements such as ursodeoxycholic acid @15mg/kg/day and silymarin @20mg/kg/day are given orally to improve the clinical outcome of a liver disease patient and to reduce the potential hepatotoxicity of medications.

A combination of empiric antibiotics and supportive care with fluid therapy, hepatic supplements is also suggested by Eddlestone (2008). Silymarin is used in hepatic disorders due to its anti-inflammatory, anti-fibrotic and free radical scavenging activity, as also mentioned by Hackett *et al.* (2013). The condition has to be differentiated from chronic hepatitis. The thickened gall bladder on the ultrasound examination was suggestive of cholangiohepatitis. This finding is in agreement with Ramery *et al.* (2012) who also found thickening of gall bladder consistent with cholangiohepatitis. The dog had to be hand fed but had appetite after the start of the treatment. Although clinically moderate improvement was recorded, the animal died on the fifteenth day of therapy.

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