

## Copper hepatopathy in one Labrador retriever

Jiyoung Jung\*, Hyunwook Kim, JihyeChoi, Hyejin Kim, Jaeyoung Jang, Heeyeon Choi,  
Jimin Seo, Minjung Lee, Hyunju Kyun, Haekyung Lee, Taeun Kim

*Haemaru Animal Referral Hospital*

Hepatic copper accumulation with chronic hepatitis and cirrhosis is known to be occurred mainly in the Bedlington terriers. But other copper-associated hepatopathies reported in a variety of breeds including American and English cocker spaniel, West Highland White terriers, Skye terriers, Dobermans, Dalmatians and Labrador retrievers. Chronic hepatitis is reported to be common in Labrador retriever and there is evidence that copper accumulation is associated with some. Females are more commonly affected and the diagnosis is generally made between 2 to 7 years of age. Hepatic copper concentration generally ranges between 750 to 2000 $\mu$ g/g dry weight liver. It appears that copper chelation is beneficial in some dogs with hepatitis and copper accumulation and penicillamine is the drug of choice for copper-associated hepatopathy.

A four-year-old, intact female Labrador retriever presented with one-week history of anorexia, retching and abdominal distension. Serum chemical analysis and haematology identified hypoalbuminemia and mild anemia. Fasting bile acids were elevated. Abdominal ultrasonography confirmed microhepatitis and ascites. Through laparoscopy, an excisional biopsy was taken from the left and right lobe. Samples were submitted for histopathology and copper analysis. Histopathology confirmed chronic hepatitis with bridging fibrosis. And hepatic copper concentration was 805 $\mu$ g/g dry weight. Most of hepatocytes contain moderate to abundant cytoplasmic copper pigment in copper stain. Therefore copper accumulation may be a contributing factor in this case. Medical therapy for this dog included chelation therapy, D-penicillamine. After the chelation and antioxidant therapy, clinical signs and hypoalbuminemia has been improved.

This case could suggest that copper-associated hepatopathies reported in a variety of breeds besides of the Bedlington terriers. Therefore copper analysis should be included in hepatic biopsy profile.

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\* Corresponding Author: 2119710@hanmail.net