

COPPER TOXICOSIS

A CASE STUDY

“Girly” *

Background

Girly is a 2 ½ year old female keeshond, who shows no clinical signs of any diseases.

The owner has had other keeshonden with Copper Storage Disease (CSD), from different lines. She has tested her water and put in a filtration system. She also uses dog bowls that were tested for heavy metals. For the past year Girly has been on a dog food that does not add supplemental copper. The dog food lists a maximum copper content of 10 mg/kg, with a target of 7.8-9.0 mg/kg (this is relatively low for dog foods).

Bloodwork

Girly has had bloodwork done at 1 year of age and 2 years of age.

- **ALT at 1 year:** 80 U/L (normal 10–125)
- **ALT at 2 years:** 99 U/L

Although still “normal,” the owner was concerned because ALT trended upward; typical values are often under 40 U/L.

Liver Biopsy

During her scheduled laparoscopic spay, the owner elected to add a liver biopsy.

The Results

Girly was diagnosed with stage 5 copper toxicity.

- **Normal liver copper:** 130–400
- **Girly’s level:** 5000

Despite the high copper concentration, inflammation and fibrosis were minimal, suggesting the condition was caught early.

The Future for Girly

Girly will begin D-penicillamine chelation therapy, which binds copper for urinary excretion. She will also transition to a lifelong prescription low-copper diet. Her veterinarian expects her to live a normal Keeshond lifespan with proper management.

**Dog name changed for privacy reasons.*