Copper Toxicosis in Dogs: What Shiba Inu Owners Should Know

Copper toxicosis is a genetic and metabolic condition where a dog's liver accumulates excess copper over time, potentially leading to inflammation, fibrosis, and liver failure. While most research has focused on breeds like Labrador Retrievers and Bedlington Terriers, growing genetic screening efforts have identified carriers in other breeds—including Shiba Inu.

Genetic Considerations

- The ATP7B gene is involved in transporting excess copper out of liver cells.

- Dogs with one copy (carriers) of the ATP7B variant may have a mild predisposition.

- Dogs with two copies (affected) are at higher risk for copper accumulation and liver damage.

- Shiba Inu are not widely studied, but cases of carriers are emerging in genetic screening.

Complicating Factor: GPT Gene

- The GPT gene affects the interpretation of ALT, a liver enzyme commonly used to monitor liver health.

- Dogs with two copies of the GPT variant may have normal or low ALT even when liver disease is present.

- This can mask early signs of copper-associated liver damage.

Recommended Veterinary Approach

For dogs with ATP7B variants or unexplained GI symptoms (vomiting, pale gums, anorexia):

- Run full liver panels, including GGT, bile acids, ALP, bilirubin, and ammonia—not just ALT.

- Consider baseline liver ultrasound or biopsy to assess copper levels if abnormalities arise.

- Feed a diet formulated to be low in copper, high in zinc. Avoid organ meats and unregulated supplements.

- Monitor every 6–12 months with a consistent vet and diagnostic plan.

Summary

Copper toxicosis is manageable when detected early. Genetic screening, proactive liver monitoring, and nutritional support are key tools in preventing progression. Shiba Inu owners should stay informed and work closely with their veterinarian to tailor care to their dog's unique genetic profile.