

Dear Dr. Fortier,

We write to convey substantive concerns regarding the Amundson et al. publication.¹ Nearly 90% of the study population were purpose-bred laboratory beagles with potentially minimal genetic diversity. Beagles are not frequently affected with copper-associated hepatitis,² and study results cannot be extrapolated to general dog populations. Furthermore, authors are unable to provide any diet histories and even acknowledge that dogs may only have consumed an “array of therapeutically intended diets associated with mitigation of chronic diseases.” This omission is troublesome because dietary and hepatic copper concentrations are positively correlated in Labrador retrievers,⁵ and there is marked variability in copper content among commercial dog foods.²

Authors also conclude “changes in AAFCO copper recommendations are not resulting in hepatic copper toxicity,” yet study populations from before and after the time period of interest were not utilized as done elsewhere.^{3,4} Liver histopathology was a defined study objective, yet minimal histologic descriptions are provided. Ideally, liver tissues would be evaluated by a veterinary pathologist according to liver standardization guidelines, and qualitative copper assessments (e.g., rhodanine staining) would be performed to support the accuracy of quantitative assessments.²

The findings of lower copper in Labrador retrievers compared to beagles and in dogs with hepatitis compared to dogs without hepatitis defy logic.^{2,5} We were even more surprised to read that nearly 40% of dogs had hepatic copper concentrations < 150 ppm, including multiple dogs with values in the range of clinical copper deficiency (e.g., < 20-30 ppm). We have never identified a case of clinical copper deficiency in an adult dog eating a commercial diet. Beyond anecdote, reported findings are in stark contrast to other studies in which much higher copper

concentrations are observed in Labrador retrievers both with and without hepatitis and in Labrador retrievers as compared to other breeds.³⁴ This raises concerns with sample preservation, processing, and/or analysis. Specimens are routinely dried overnight in our laboratory, yet the authors describe a 3-4 hour drying period. It is unknown if measurements were performed with an appropriately validated assay in an AAVLD-accredited laboratory.

We invite the authors to submit their archived specimens to an external AAVLD-accredited laboratory for histologic evaluation and determination of copper burden. Even if the described results were substantiated, it would not offset the inability to extrapolate findings in research beagles to pets across the USA. We believe that the limitations of this publication outweigh any potential benefits to the veterinary community.

Sincerely,

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References

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