

Effect of a Low-Fat Diet on Hypertriglyceridemia in Miniature Schnauzers

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In the literature

Xenoulis PG, Cammarata PJ, Walzem RL, Suchodolski JS, Steiner JM. Effect of a low-fat diet on serum triglyceride and cholesterol concentrations and lipoprotein profiles in miniature schnauzers with hypertriglyceridemia. *J Vet Intern Med.* 2020;34(6):2605-2616.

FROM THE PAGE ...

Hypertriglyceridemia is a well-established, breed-related disorder in miniature schnauzers and several other breeds that has been linked with pancreatitis, proteinuria, and hepatobiliary disease. Although dietary fat restriction is considered standard of care, there are limited clinical data to support this recommendation.

This study evaluated a cohort of miniature schnauzers with and without hypertriglyceridemia to evaluate the effect of feeding a low-fat diet on serum triglyceride and cholesterol concentrations and lipoprotein profiles. Hypertriglyceridemic dogs were screened for concurrent disease, and 16 dogs not receiving a diet labeled as low-fat were enrolled in the study. A second group consisting of 28 miniature schnauzers without hypertriglyceridemia was enrolled to establish reference ranges for serum lipoprotein concentrations, as these had not previously been established.



After baseline assessment, the dogs with hypertriglyceridemia were transitioned to a commercially available, low-fat therapeutic diet and were reassessed with paired serum samples 4 weeks apart after being fed this diet exclusively for ≈2 to 3 months. Serum cholesterol and triglyceride concentrations were measured and lipoprotein profiles analyzed at both timepoints. Comparisons were made between pre- and post-trial values as well as between normo- and hypertriglyceridemic dogs.

There were significant reductions in both serum cholesterol and triglyceride concentrations after the diet change. Significantly fewer dogs were hypertriglyceridemic or had

lipoprotein profiles consistent with hyperlipidemia at the end of the study than at enrollment. Although ≈70% of dogs remained hypertriglyceridemic at the end of the trial, only ≈6% of dogs had a serum triglyceride concentration >500 mg/dL, which the authors believed to be a more liberal cutoff for hypertriglyceridemia that results in comorbidities.

This study presents compelling evidence that feeding a low-fat therapeutic diet can aid in reducing hypertriglyceridemia and should be a first-line therapy for hypertriglyceridemic dogs without identifiable disease that might be responsible for the condition. Pretrial diet information however was not reported or assessed; thus, the data may overestimate the effect of a low-fat diet, as it is possible that fat restriction from a high-fat to a moderate-fat diet might improve hyperlipidemia in some dogs.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** Idiopathic hypertriglyceridemia is an important disease in miniature schnauzers, and increased awareness of this disease might result in earlier diagnosis and intervention.
- 2** Restricting dietary fat intake appears to be a helpful first-line strategy for many affected dogs.
- 3** Some dogs will remain hypertriglyceridemic even after diet change and might require further intervention.

Suggested Reading

Furrow E, Jaeger JQ, Parker VJ, et al. Proteinuria and lipoprotein lipase activity in miniature schnauzer dogs with and without hypertriglyceridemia. *Vet J.* 2016;212:83-89.

Xenoulis PG, Levinski MD, Suchodolski JS, et al. Prevalence of hypertriglyceridemia in healthy miniature schnauzers. *J Vet Intern Med.* 2007;21:614-615.



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