

Food-Induced Thyrotoxicosis in Dogs

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In the Literature

Morré WA, Panciera DL, Daniel GB, Refsal KR, Rick M, Arrington K. Thyrotoxicosis induced by excessive 3,5,3'-triiodothyronine in a dog. *J Am Vet Med Assoc.* 2017;250(12):1427-1431.

FROM THE PAGE ...

In dogs, thyrotoxicosis is uncommon and is most often caused by functional thyroid tumors.¹ Less often, thyrotoxicosis has been caused by ingestion of food products containing thyroid gland tissue. In these cases, diagnosis has been made by finding high total thyroxine (T4) concentrations.²⁻⁵

This case report described a novel presentation. Clinical signs of thyrotoxicosis (eg, panting, hyperactivity, aggression, progressive weight loss despite healthy appetite) were noted. However, measurement of total and free T4 revealed concentrations below the reference range on multiple occasions. Further evaluation of triiodothyronine (T3) repeatedly revealed increase in concentrations. Thyroid scintigraphy did not reveal any masses that would result in endogenous overproduction of thyroid hormones.

Based on the findings, a dietary cause was suspected, and the diet was changed from a commercial beef-based canned food to a different diet. Clinical and hormonal abnormalities resolved. Analysis of the previous food revealed a high concentration of T3 and iodine concentration exceeding industry recommendations. No other environmental source of T3 was identified. The FDA recently announced a recall of 2 commercial meat-based diets after 3 reported cases of thyrotoxicosis in dogs fed the diets. These dogs also had high total and free T3 concentrations and low total and free T4 concentrations.⁶

As more new diets come to market, veterinarians should remain aware of the possibility of food-induced thyrotoxicosis in dogs. For dogs with disparity between clinical signs and routine T4 measurements, further testing of other thyroid hormones should

be considered. If a food-induced cause is suspected, the product should be reported to the FDA's Center for Veterinary Medicine.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1 Thyrotoxicosis in dogs, which is uncommon, is most often caused by thyroid hormone-producing tumors, but food-induced thyrotoxicosis must be considered.
- 2 If thyrotoxicosis is suspected and T4 concentrations are normal or low, other thyroid hormones, including T3, should be measured.
- 3 In the absence of endogenous sources of excess thyroid hormones, dietary causes of thyrotoxicosis should be investigated.

References

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