

# Chronic Kidney Disease in Hyperthyroid Cats

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## In the Literature

Williams TL, Elliott J, Syme HM, Archer J. Investigation of the association between serum protein concentrations and concurrent chronic kidney disease in hyperthyroid cats. *Res Vet Sci*. 2017;115:412-417.

## FROM THE PAGE ...

Hyperthyroidism is the most common endocrine disorder in cats, with prevalence ranging from 2% to 4%.<sup>1</sup> Because of increases in glomerular filtration rate and decreased muscle mass, cats with hyperthyroidism may have masked concurrent chronic kidney disease (CKD) that does not become apparent until after treatment.<sup>2,3</sup> It can be difficult to determine before therapy which cats may develop azotemia after restoration of the euthyroid state. A suitable biomarker has not been identified in prior reports.

In a previous study, lower plasma globulin concentrations were found to be a predictor of azotemia within 240 days of diagnosis of hyperthyroidism.<sup>4</sup> In the present study, the investigators aimed to establish the repeatability of this finding and determine whether a particular globulin fraction, measured by protein electrophoresis, was associated with masked CKD. Fifty-six hyperthyroid cats and 26 healthy older cats were evaluated. Although differences were found between healthy and hyperthyroid cats in some variables, no differences were noted in concentrations of total globulin or any of its fractions between masked-azotemic and nonazotemic cats.

Because a reliable biomarker to determine masked kidney disease is not available, clinicians should thoroughly evaluate kidney function in cats before and after hyperthyroidism treatment. Thyroid function should also be assessed using thyroid-stimulating hormone and total thyroxine concentrations to avoid iatrogenic posttreatment hypothyroidism, as this can contribute to azotemia and reduced survival time.<sup>5,6</sup>

## ... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** Cats with hyperthyroidism should be screened at the time of diagnosis for evidence of CKD through evaluation of serum chemistry profile and urinalysis. Blood pressure should also be measured to assess for hypertension.
- 2** Because there is not a reliable biomarker to determine the presence of masked kidney disease, reassessment for kidney disease should be performed once the cat is euthyroid.
- 3** A hypothyroid state after treatment can contribute to the development of azotemia and result in reduced survival time.

## References

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