

# Cardiac Troponin I Use for Assessment of Hypertrophic Cardiomyopathy Risk

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## In the Literature

Hori Y, Iguchi M, Heishima Y, et al. Diagnostic utility of cardiac troponin I in cats with hypertrophic cardiomyopathy. *J Vet Intern Med.* 2018;32(3):922-929.

## FROM THE PAGE ...

Cats with hypertrophic cardiomyopathy (HCM) can be presented with signs of heart failure, but a substantial number of cats with HCM lack clinical signs, which presents a diagnostic challenge. Definitive diagnosis of HCM is best made using echocardiography, although other diagnostic tests that are less expensive and easier to perform may be useful in assessing the risk for HCM, particularly in subclinical cats. Various studies have evaluated the utility of circulating cardiac troponin I (cTnI) as a marker of myocardial cell injury and risk for HCM in cats.

This study measured plasma cTnI concentrations in both healthy cats ( $n = 88$ ) and cats with HCM ( $n = 93$ ). Healthy cats had low cTnI concentrations (median, 0.027 ng/mL; range, 0.012-0.048 ng/mL). The concentration of cTnI in cats with HCM increased in proportion to severity of heart disease. A cTnI concentration  $>0.163$  ng/mL demonstrated good specificity for the presence of underlying HCM. Cats with left atrial enlargement or congestive heart failure due to more severe HCM typically had even higher concentrations.

Measurement of cTnI, or any other cardiac biomarker, is not a substitute for echocardiography; however, biomarker testing can help practitioners broadly stratify risk for HCM when making decisions about the need for further diagnostics. Systemic disease (eg, sepsis, inflammatory disease, trauma, hyperthyroidism) can cause secondary

cardiac injury and, accordingly, increased cTnI concentrations. Thus, cTnI testing can be helpful but should be viewed in context of the patient's entire clinical picture.

## ... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** Owners should be educated that cTnI testing can help increase or decrease the suspicion for HCM in cats at risk for heart disease, but it is not a definitive diagnostic test.
- 2** cTnI test results can help clinicians make decisions about the likelihood of HCM and the need for additional diagnostics (eg, echocardiography). Most healthy cats have concentrations  $<0.05$  ng/mL. Values  $>0.163$  ng/mL are suggestive of HCM. Values that are intermediate to these may not be helpful for decision-making.
- 3** Measurement of circulating cTnI is a useful adjunct in assessing cats with possible heart disease.