Vet Clin Pathol. 2007 Mar;36(1):79-84.

Evaluation of plasma antithrombin activity and D-dimer concentration in populations of healthy cats, clinically ill cats, and cats with cardiomyopathy.

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Source

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Abstract

BACKGROUND:
Current coagulation tests lack sensitivity and detect disseminated intravascular coagulation (DIC) only when it is severe. Measurement of antithrombin (AT) activity and D-dimer concentration permits early diagnosis and more precise classification of coagulopathies in some species.

OBJECTIVES:
The objectives of this study were to validate and determine the diagnostic utility of a chromogenic AT assay and an immunoturbidimetric D-dimer assay for the diagnosis of DIC in cats.

METHODS:
Citrated plasma samples were collected from 30 healthy cats, 30 ill cats, and 13 cats with cardiomyopathy. Partial thromboplastin time, prothrombin time, fibrin(ogen) degradation products, platelet concentration, and erythrocyte morphology were determined on all samples to document the presence or the absence of DIC. AT activity and D-dimer concentration were then measured.

RESULTS:
The chromogenic AT assay was linear and precise. Mean AT activity was higher in ill cats and cats with cardiomyopathy compared with healthy cats, but the difference was only significant in ill cats ($P = .003$). Seven cats met the criteria for DIC. Of the cats with DIC, 2 had decreased AT activity, 1 had increased AT activity, and 4 had AT activities within normal limits. The immunoturbidimetric D-dimer assay did not appear to accurately measure feline D-dimer.

CONCLUSIONS:
The chromogenic AT assay appeared to measure AT in cats but was not useful for the diagnosis of DIC. AT may be an acute phase reactant in cats. The immunoturbidimetric D-dimer assay was not useful for the diagnosis of DIC in cats.

PMID: 17311199 [PubMed - indexed for MEDLINE]