

ACVIM Consensus Statement

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Assessment and Management of Proteinuria in Dogs and Cats: 2004 ACVIM Forum Consensus Statement (Small Animal)

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Emerging data indicate that more attention should be given to the detection, evaluation, monitoring, and treatment of dogs and cats with proteinuria. The purposes of this consensus statement are to describe an appropriate approach for accomplishing these tasks and to provide specific recommendations for assessing and managing dogs and cats with proteinuria based on data that are currently available. Because proteinuria and albuminuria have numerous possible causes, they must be assessed appropriately to determine their implications for the patient. This assessment involves localization of the origin of the proteinuria as well as determination of its persistence and magnitude. Because persistent renal proteinuria usually indicates presence of chronic kidney disease, which sometimes is a progressive disorder, its detection identifies dogs and cats that have increased risk for adverse health outcomes. Thus, urine testing that will detect proteinuria should be a component of the clinical evaluations of dogs and cats under all circumstances that prompt their veterinarians to also perform comprehensive hematologic and serum biochemical evaluations. At a minimum, this testing should consist of a complete urinalysis that includes a satisfactorily accurate semiquantitative test for protein, and positive reactions should be properly followed with further testing. The appropriate response to persistent renal proteinuria depends on the magnitude of proteinuria and the status of the patient. The recommended response generally involves continued monitoring, further investigation, and therapeutic intervention, which should be implemented as an escalating series of inclusive, stepwise responses.

Key words: Albuminuria; Canine; Chronic kidney disease; Feline.

Results of recent studies suggest that in dogs and cats, as in humans, persistent proteinuria is associated with greater frequency of renal morbidity, renal mortality, and mortality of all causes.^{1,a,b} Moreover, risk of developing these adverse outcomes increases as the magnitude of proteinuria increases.¹ Existing data supporting these statements are derived mainly from studies of dogs and cats with chronic renal failure (CRF) (ie, animals with chronic kidney disease [CKD] that already is causing azotemia).^{1,a} However, examination of some recent data also indicates that

proteinuria is associated with an increased risk of mortality due to all causes even in cats with renal function that is otherwise good (ie, adequate urine-concentrating ability, nonazotemic) when their proteinuria is 1st discovered.^b

Although data from studies of dogs and cats are sparse, results of recent studies also suggest that when markedly proteinuric dogs and cats are treated with angiotensin-converting-enzyme inhibitors having renoprotective effects (ie, effects that decrease or delay adverse outcomes), a reduction in the magnitude of proteinuria is also observed during treatment.^{2,3} This same phenomenon is now well documented in humans with many different types of renal disease.^{4–7}

Observation that greater proteinuria is associated with more rapid renal disease progression and that interventions that reduce proteinuria also are renoprotective has fueled speculation and much investigation about the possible role of proteinuria as a direct cause of further glomerular or

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