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FREQUENCY OF ELECTROPHORETIC CHANGES IN URINE OF OLD CATS WITH OR WITHOUT CKD

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Background

Contrarily to what occurs in dogs, little is known about the most common patterns of proteinuria in cats affected by CKD

Objective

to determine the severity and types of proteinuria in cats with overt CKD or older than 8 years (and therefore considered at risk to develop CKD)

Methods

CKD (IRIS stages 1-3) was diagnosed in 15 cats on the basis of history, clinical examination, ultrasonography, complete blood examination and urinalysis (including UPC). Fifteen clinically healthy cats older than 8 years or belonging to breeds at risk for familiar CKD were also included in the study.

Undiluted urine supernatants (after a maximum of 6-months storage at -20°C) were assayed with SDS-AGE. According to the presence of electrophoretic bands in low molecular weight, high molecular weight or both, samples were defined as tubular (T), glomerular (G) or mixed (M) proteinuria, respectively. Samples displaying albumin band or without any bands were defined as albuminuric (A) or negative (N), respectively.

Results

The median UPC in cats with CKD was 0,09 (range 0,03-0,60); 11, 3 and one cats were classified as NP, BP and P, respectively). The median UPC of cats at risk was 0.14 (range 0.04-0.30); ten and 5 cats were classified as NP and BP, respectively. No significant differences between groups was found for the UPC.

The SDS-AGE pattern of CKD cats was G (n=7; 5 NP, 2 BP), A (n=6; 4 NP, 1 BP, 1 P) T (n=1; NP), M (n=1; NP), whereas in cats at risk the pattern was G (n=13; 8 NP, 5 BP), M (n=1; NP) or N (n=1; NP).

Conclusions

Proteinuria was rare in cats with CKD or at risk for CKD. When present, proteinuria was moderate in magnitude. Glomerular bands or albuminuria were frequently found even in the absence of clinically relevant proteinuria or of CKD, suggesting that the specificity of SDS-AGE is moderate in cats.