Clinical characteristics of a population of proteinuric cats

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Introduction
Chronic kidney disease (CKD) is very common in cats(1). Persistent proteinuria is a marker of CKD and its progression(2). Although several studies have evaluated proteinuria in cats with CKD, none have described and analyzed the characteristics of proteinuric feline population(1,2,3). The purpose was to determine which clinical and clinicopathological characteristics define cats with proteinuria.

Material/Methods
Medical data from 113 cats (2007-2018) were evaluated: clinical signs, concurrent pathologies, blood pressure, serum chemistry, hematology, abdominal ultrasound and urinalysis, urinary protein-to-creatinine ratio (UPC). Cats were divided into non-proteinuric (<0.2 UPC), borderline-proteinuric (0.2 to 0.4 UPC) and proteinuric (>0.4 UPC) groups.

Results/Discussion
Of the 113 cats, 45.13% were non-proteinuric, 21.2% borderline-proteinuric and 33.62% proteinuric. Although not statistically significant (P 0.037), cats with CKD had a higher median UPC than cats without CKD. In contrast to other studies, higher mean UPC value in cats with IRIS stage 3 was observed(1,3). A high UPC value predicts azotemia, such all cats with UPC >0.4 had IRIS stage 2 or more. Furthermore, serum urea was positively correlated with the magnitude of proteinuria (P 0.004). As previous studies, this study also found that plasmatic urea concentration, blood pressure, low weight, serum potassium and UPC, were predictive of CKD progression and mortality(1,3). Statistical analysis showed that all cats with proteinuria (UPC>0.2) had significantly more severe clinical signs. No breed, gender or age difference between groups was identified.

Conclusion
These results confirm that proteinuria predicts progression of CKD in felines. Even though severity of proteinuria was related to degree of azotemia, clinical signs and mortality, also borderline-proteinuric cats showed clinical signs. Further studies are needed to verify if identification and treatment of borderline-proteinuric cats would alleviate clinical signs slowing progression of CKD.

References

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