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EPIDEMIOLOGICAL STUDY ON CHRONIC KIDNEY DISEASE IN CATS

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Abstract:*This epidemiological study evaluated 40 cats with chronic kidney disease at the Internal Medicine Clinic of the Faculty of Veterinary Medicine in Timișoara. Diagnosis was based on medical history, clinical signs, laboratory tests, and ultrasound findings. Renal function was assessed through samples collected from all cats. Staging followed IRIS guidelines, confirmed by serum creatinine concentration measured at least twice over a two-week interval. The results revealed that most cats were diagnosed at advanced stages (particularly stage IV), with early-stage disease rarely identified. Geriatric cats were most affected, indicating a strong link between age and disease onset. Early clinical signs were often missed, with polydipsia and polyuria being common but not always observed by owners. Clinical symptoms typically emerged only when renal function was severely compromised, underscoring the challenge of early detection. This study demonstrates that late diagnosis is common and emphasises the urgent need for earlier detection and careful monitoring, especially in older cats, to improve outcomes for feline chronic kidney disease.*
Keywords: *chronic kidney disease, cat, laboratory tests, clinical signs.*

• Introduction

Chronic kidney disease (CKD) is one of the most common disorders in geriatric cats and significantly affects both quality of life and survival. Because of its progressive and often subclinical nature, the disease is frequently diagnosed only in advanced stages, when renal function is already severely compromised. Early clinical signs, such as polyuria and polydipsia, are often subtle and may go unnoticed by owners.The diagnosis of feline CKD relies on medical history, clinical examination, laboratory findings, and imaging investigations, while staging according to the International Renal Interest Society (IRIS) guidelines is essential for assessing disease severity and prognosis. The present study aimed to evaluate the epidemiological aspects of chronic kidney disease in cats diagnosed at the Internal Medicine Clinic of the Faculty of Veterinary Medicine in Timișoara.

• Material and method

The study was conducted on 40 cats diagnosed with chronic kidney disease at the Internal Medicine Clinic of the Faculty of Veterinary Medicine in Timișoara. Diagnosis was based on medical history, clinical signs, laboratory tests, and ultrasound findings. Renal function was assessed through samples collected from all cats. Staging followed IRIS guidelines, confirmed by serum creatinine concentration measured at least twice over a two-week interval (figure 1).

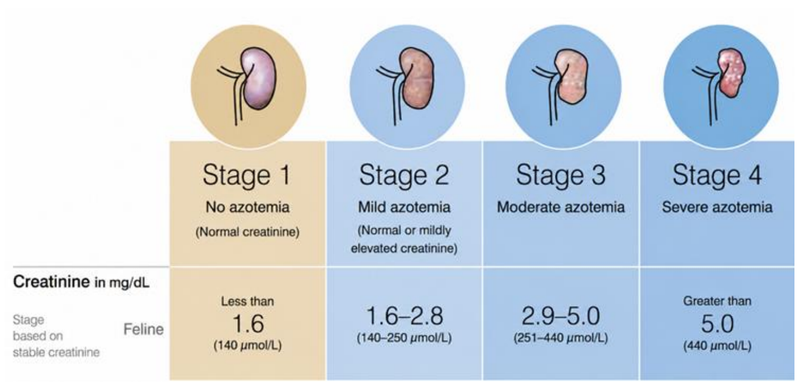

Figure 1. Stage CDK-IRIS

Blood and urine samples were collected from all cats to evaluate renal function. Urine samples were either provided by the owners in sterile containers or collected during consultation by urethral catheterization or induced urination. Blood samples were obtained from the cephalic vein following prior antisepsis.

• Results and discussions

To assess the severity of CKD at the time of diagnosis, CKD staging was performed in accordance with the recommendations of the International Renal Interest Society (IRIS). Staging was based on serum creatinine concentration across the four stages.
At the time of diagnosis, most cats were classified in advanced stages of chronic kidney disease: 38% were in stage IV, 34.61% in stage II, 19.23% in stage III, and only 7.69% in stage I (pre-azotemic) (Figure 2).

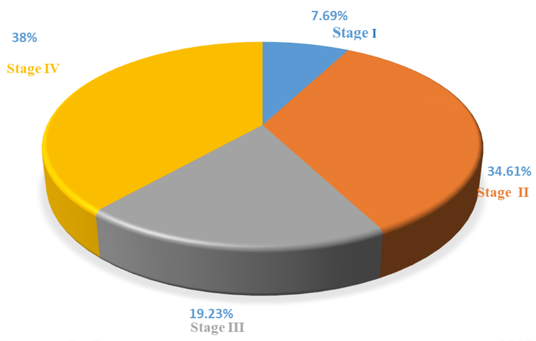

Figure 2. Prevalence according to the stage of CKD

Following repeated serum creatinine evaluations, only four cats were reclassified: one progressed from stage II to stage III, while three showed improvement, with two moving from stage IV to stage III and one from stage II to stage I.

The average age of cats was evaluated according to the IRIS staging system. Following repeated serum creatinine assessments and patient reclassification, the mean age changed across all stages. In stage I, the average age decreased from 13 to 10 years, while in stage II it decreased from 10.77 to 8.77 years after one patient progressed to stage III. In stage III, the mean age changed from 13.6 to 12.37 years, and in stage IV from 10.35 to 9.04 years (figure 3).

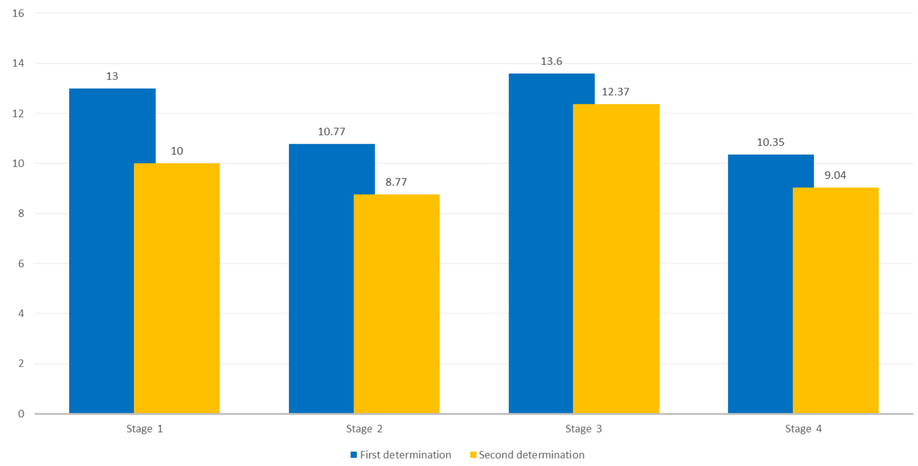

Figure 3. Average age by stage after the first and second creatinine measurements

Chronic kidney disease is commonly diagnosed in geriatric cats. In this study, the mean age of affected cats was 10.94 years, with most patients belonging to the 10–15-year (37.5%) and 15–20-year (32.5%) age groups, confirming the increased susceptibility of older cats. Similar studies reported a mean age of 9.2–12 years, with prevalence increasing with age.
Among cats diagnosed with CKD, males were more frequently affected (57.5%) than females (42.5%). Early clinical signs were identified in only 42.5% of patients, with polyuria observed in 32.5% of cases and polydipsia reported in only 20%, suggesting that these early signs may often go unnoticed by owners. Polyuria occurs due to the kidneys' reduced ability to concentrate urine, while polydipsia develops as a compensatory response. Most clinical signs become evident only after more than 75% of the renal parenchyma is affected.
As a multisystemic syndrome, CKD was associated with vomiting and anorexia in 57.5% of cats, and diarrhea and weight loss in 42.5% of cases (figure 4). Gastrointestinal signs such as vomiting and diarrhea are associated with the accumulation of nitrogenous waste products in the blood and are more commonly observed in advanced stages (III and IV) of CKD.


Figure 4. Cat with anorexia and weight loss

Conclusions

Chronic kidney disease was diagnosed predominantly in geriatric cats, confirming age as an important risk factor for the development of feline CKD. Furthermore, most cats were diagnosed in advanced IRIS stages, particularly stage IV, which indicates that early detection of CKD remains challenging in clinical practice. Notably, although early clinical signs such as polyuria and polydipsia were frequently overlooked by owners, gastrointestinal signs were more common in advanced disease stages. This emphasises the importance of regular monitoring and routine renal screening in older cats.