

CYSTOCENTESIS AND URINALYSIS IN ZOOMEDICINE: AN UNDERESTIMATED TOOL FOR LARGE FELID STANDARD HEALTH CHECKS.

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Abstract

Chronic kidney disease (CKD) is a prevalent disease among felids; yet its origin is still poorly understood, and the disease often remains asymptomatic for years, underscoring the need for early diagnosis. This study aimed to investigate the diagnostic value of urinalysis in accurately staging CKD, particularly as routine health checks in large felids often overlook its significance. In this research, ultrasound-guided cystocentesis (UGC) was performed on 50 captive nondomestic felids during routine veterinary health checks under general anesthesia. Urinalysis included microscopic examination of the sediment, measurement of urine specific gravity (USG) and protein to creatinine ratio (UPC). Additional serum kidney markers, such as creatinine and symmetric dimethylarginine, were compared with USG and UPC to assess their diagnostic value as urinary biomarkers. The results demonstrated proteinuria (UPC > 0.4) or borderline proteinuria (UPC 0.2–0.4) in 49% of the animals. Among these cases, 62% were of renal origin, and 38% were postrenal causes. USG was significantly higher in felids with borderline proteinuria compared to those with proteinuria. A moderate, but significant negative correlation between serum parameters and USG was observed, emphasizing the importance of assessing both diagnostic parameters during kidney evaluations. Additionally, felids with CKD have an increased risk of urinary tract infections, necessitating microscopic urinalysis and bacterial culture analysis. Abnormalities, including hematuria, pyuria, crystalluria, and bacteriuria, were found in approximately 38% of cases through microscopical examination of urine. No complications associated with UGC were observed and abnormal findings were detected in 60% of the cases. Based on these results, the authors recommend the inclusion of UGC and urinalysis as standard diagnostic tools in general health checks for nondomestic felids. This approach provides valuable insights into the early detection and staging of CKD, supporting early intervention and supportive medical care to prolong renal health in these animals.