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Free light-chain proteinuria and normal renal histopathology and function in 11 dogs exposed to Lleishmania infantum, Ehrlichia canis, and Bbabesia canis.

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The purpose of this retrospective study was to investigate the relationship among proteinuria consisting of immunoglobulin free light chains (FLCs), renal histopathologic findings, and routine markers of renal function in 11 dogs exposed to Leishmania infantum (n = 8), Ehrlichia canis (n = 2), and Babesia canis (n = 1). FLC proteinuria was suspected based on identification of a 22- to 27-kDa band by sodium dodecyl sulfate-agarose gel electrophoresis (SDS-AGE) and later confirmed by immunofixation electrophoresis. SDS-AGE identified an isolated band of 22-27 kDa in 8 dogs, whereas the remaining 3 had a 22- to 27-kDa band and an additional band of 67-72 kDa. The median urine protein-to-urine creatinine ratio was 0.37 (range, 0.11-2.24) and increased ratios were found in 6 dogs (54.5%) (reference value, <0.7). All dogs underwent histologic examination of renal percutaneous biopsy specimens and determination of serum creatinine and urea concentrations. Tissue samples for light microscopy were stained with hematoxylin-eosin, periodic acid-Schiff, Goldners trichrome, and methenamine silver. In the study group, the glomerular tufts, mesangium, tubulointerstitium, and vessels appeared unaffected. The median serum creatinine concentration in these 11 dogs was 1.3 mg/dL (range, 0.8-1.5 mg/dL; reference range, 0.6-1.5 mg/dL), whereas the concentration for urea was 28 mg/dL (range, 22-52 mg/dL; reference range, 20-50 mg/dL). All dogs had normal renal morphology and had normal serum creatinine and urea concentrations, suggesting that immunoglobulin FLC may be detected in the urine of dogs exposed to L. infantum, E. canis, and B. canis without any apparent structural or functional renal derangement.