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Glomerular lesions in dogs infected with Leishmania organisms.

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OBJECTIVE: To histologically identify glomerular lesions in dogs infected with Leishmania organisms. **ANIMALS:** 41 dogs (17 sexually intact males and 14 sexually intact and 10 ovariohysterectomized females) that had positive results when tested for leishmaniosis as determined by use of serologic evaluation (indirect fluorescent antibody test, titers of 1:80 to 1:640) and direct microscopic identification of the protozoal organisms. **PROCEDURE:** Urine samples were collected by use of cystocentesis and examined by qualitative SDS-agarose gel electrophoresis (AGE). All dogs had non-selective (glomerular) or mixed (glomerular and tubular) proteinemia. Specimens were obtained from each dog during ultrasound-assisted renal biopsy and used for histologic examination. Each specimen was stained with H&E, periodic acid-Schiff, Goldner's trichrome, methenamine silver, and Congo Red stains. Specimens were adequate for evaluation when they contained at least 5 glomeruli/section, except for specimens stained with Congo Red in which 1 glomerulus/section was adequate. **RESULTS:** Examination of renal biopsy specimens revealed various glomerular lesions in all dogs and interstitial or tubular (or both) lesions in 23 of 41 (55%) dogs. **CONCLUSIONS AND CLINICAL RELEVANCE:** Glomerular lesions that develop in dogs during infection with Leishmania organisms can be classified histologically as mesangial glomerulonephritis, membranous glomerulonephritis, membranoproliferative glomerulonephritis, and focal segmental glomerulonephritis. Tubulointerstitial histopathologic conditions were not observed as the primary lesion, despite being evident in 23 of 41 (55%) dogs. Use of SDS-AGE for qualitative evaluation of proteinuria and successive collection of specimens during renal biopsies following diagnosis of nonselective glomerular proteinuria provides the possibility for early identification of renal lesions.