

# KIDNEY DISEASE

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Nephritis and neoplasia are the most common and important kidney diseases in cats, although hydronephrosis, infarcts and congenital anomalies occasionally occur. Chronic interstitial nephritis and chronic pyelonephritis are common but rarely occur in cats less than 9 years old. Both sexes are similarly affected and most commonly display polydipsia, anorexia and weight loss for periods ranging from days to years before death.

Frequently the disease has an insidious course, and many cats are first seen in advanced stages of renal impairment. Vomiting occasionally occurs. Uremia is associated with debilitation, dehydration, ammoniacal breath odor, ulcerations of the lateral tips of the tongue or gingiva, and anemia. Palpation in cases of advanced nephritis may reveal 1 or both kidneys to be shrunken or granular. BUN values may range from 130 to 600 mg/100 ml.

Extrarenal causes of elevated BUN, such as vomiting, diarrhea, dehydration, shock and hemorrhage should be considered. Normal BUN values are higher than in the dog; when using azosticks, values over 70 mg/100 ml should be considered suspicious and more than 100 mg significant. Urinalysis often reveals moderate proteinuria by the Salicylsulphonic acid test, and sediment may contain casts or cellular material. The Albustix (Ames) urine protein determination is unreliable in the cat.

Most infections appear to be bacterial, although routine lesion cultures are almost always sterile. Evidently bacteria are eliminated during the early course

of disease, and slow lesion progression occurs through immune, vascular or other mechanisms. Neither leptospiral nor viral nephritis appears to occur in cats, and toxic nephritis is unusual.

Necropsy usually reveals contracted and nodular kidneys in chronic pyelonephritis, while in chronic interstitial nephritis they are contracted and finely granular. Wedge-shaped scars extend from the cortex to medulla, and the renal papilla is often necrotic in advanced pyelonephritis. Linear scars are only occasionally visible on the cut surface in interstitial nephritis, and large flat scars are frequently found at either pole of the kidney. Extrarenal lesions frequently associated with advanced nephritis include parathyroid hyperplasia, osteodystrophiafibrosa, left ventricular enlargement and lung edema.

Treatment may prolong life and should include fluid therapy, symptomatic control of vomiting or diarrhea, high-calorie low-protein diet with vitamin supplementation, and blood transfusion if anemia is severe. Antibiotic therapy is probably not indicated since most cats appear to have bacteriologically sterile kidneys when presented with chronic renal insufficiency.

Renal infarcts have little clinical significance except in cats surgically treated for aortic embolism or having previous embolic episodes. Grossly, infarcts cause red-brown V-shaped scars and appear as wedge-shaped fibrous scars in the cortex of the sectioned kidney. Hydronephrosis is usually unilateral and asymptomatic but may be associated with abdominal enlargement or confused with neoplasia on palpation. The hydronephrotic kidney has a smooth outline and feels like a turgid sac. It may be caused by congenital ureteral constriction, ureteral damage during ovariohysterectomy, acquired obstructions such as calculi, or tumors of the ureters or bladder.