

ETIOLOGY OF URETHRAL OBSTRUCTION

L. J. Rich, DVM

New York State Veterinary College, Ithaca

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Possible causes of feline urethral obstruction include avitaminosis A, crystalluria, high-ash diets, bacterial infections and protein factors. In necropsies of 20 cats with urethral obstruction there was no histologic evidence of the typical squamous metaplasia seen in experimentally produced avitaminosis A. Struvite crystals were found in equal amounts in affected and unaffected cats in all urine samples with pH as low as 6.0, and in all feline uroliths and urethral plugs analyzed.

In normal male cats, 20.3 to 108.3 mg of struvite crystals were produced daily, but the amounts did not increase in cats with a history of urethral obstruction or in cats during acute obstruction. Diet and urinary pH influenced mean crystal weight per day. Evidently additional factors are necessary for urinary obstruction.

Muscle and urine samples from obstructed cats yielded picornaviruses on primary monolayer feline kidney cell cultures. None of 4 cats inoculated with the muscle isolate developed urethral obstruction, but 3 of 4 cats given the urinary isolate became obstructed within 90 days. Filtration of the urine did not remove the causative factor. These isolates, present in respiratory diseases in cats, may be the cause of urethral obstruction but additional transmission studies are needed.