Case Report

Urolithiasis in a Female Guinea Pig

Heidi L. Hoefer, DVM, DABVP (Avian)
Island Exotic Veterinary Care
Huntington, New York

Case Presentation

A 2-year-old, intact female guinea pig presented to the clinic for a history of squealing and straining to urinate for 2 days. The husbandry of this animal was acceptable, and the diet consisted of commercial alfalfa-based guinea pig pellets, alfalfa hay, a variety of vegetables, and a water-soluble vitamin C supplement.

On physical examination, the guinea pig was alert but appeared agitated. Its abdomen was painful on palpation, and a partial urinalysis (performed using a commercial small animal urinalysis dipstick) was positive for blood. Lateral and ventrodorsal radiographs were taken with the patient under sedation and revealed a 3-mm mineral (calcium) density in the distal urethra (FIGURE 1). While the patient was sedated, the calculus was visualized in the urethral diverticulum and removed in one piece using mosquito forceps. The guinea pig was treated with subcutaneous fluids and meloxicam. After anesthetic recovery, the patient was sent home on a therapeutic regimen of trimethoprim-sulfamethoxazole and a short course of meloxicam for urethral inflammation. The owners were instructed to switch the animal to a low-calcium diet. Because alfalfa is high in calcium, ad libitum timothy hay, timothy-based guinea pig pellets, and vegetables low in calcium were recommended. The owners monitored the guinea pig carefully at home, and the clinical signs resolved.

Twelve months after the initial presentation, the guinea pig presented again for stranguria and abnormal vocalization. One month before this second presentation, the owners had begun feeding the guinea pig an alfalfa-based gourmet pellet, although it had continued to eat timothy hay and vegetables. The physical examination was within normal limits. Lateral radiographs obtained while the patient was under sedation showed no significant findings. Urinalysis was negative for blood but showed 4+ bacteria per high-powered field and many calcium carbonate crystals.

The guinea pig was again sent home on a treatment regimen of trimethoprim-sulfamethoxazole and meloxicam and a strict low-calcium diet. The clinical signs resolved.

Discussion

Urinary calculi are fairly common in guinea pigs. The calculi are typically composed of calcium salts (usually carbonate) and can be found anywhere within the urinary tract: the kidneys, ureters, bladder, or urethra. These calculi are radiodense and easy to identify on radiographic images. The underlying cause of urinary calculi in guinea pigs is unknown. Calculi in guinea pigs are not typically associated with bacterial infections. Calculi need not be present for cystitis to develop. Crystalluria (calciuria) is considered a normal finding during urinalysis of guinea pig patients.

Stone dissolution diets are ineffective in guinea pigs. The recommended treatment protocol is surgical removal of calculi, with a guarded prognosis for long-term cure. Recurrence of calculi is common. Postoperative management of this disease condition should include appropriate antibiotics, analgesics, a low-calcium diet (limited alfalfa and calcium-rich greens), and follow-up radiography in 2 to 4 months.

Figure 1. Ventrodorsal radiograph of a female guinea pig. A mineral-dense urolith is evident in the urethra.

This article is based on an original article first published in the Hartz Exotic Health Newsletter of Practical Medicine for Veterinary Professionals, produced by Hartz Mountain Corporation.