



This case report demonstrates the successful use of PURINA® PRO PLAN® VETERINARY DIETS Feline UR St/Ox Urinary wet and dry in the dissolution of urinary struvite stone in cat.

A struvite urolithiasis in a female cat

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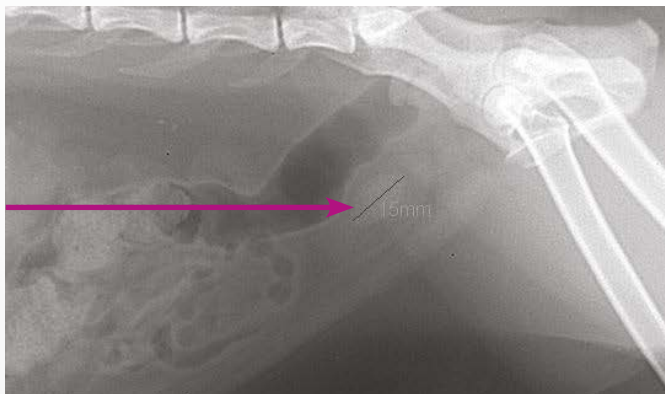


Bibouille was a 7-year-old spayed female domestic cat, living in an apartment. She was the only animal in the household of a young childless couple. Bibouille was fed on a commercial dry food. She had been suffering from dysuria, intermittent haematuria, and urinary soiling for the past two

years. She was brought in for consultation because she had been leaking urine in her sleep for a number of weeks. Urinary lithiasis had apparently been diagnosed over a year previously. Surgery had been proposed at the time, but the owners had decided not to proceed.

Clinical examination

On examination, Bibouille was found to be in a poor general state of health. She was a little on the thin side (3.8 kg) and her coat was dull and ruffled. On palpation of her bladder, which was small and hard,



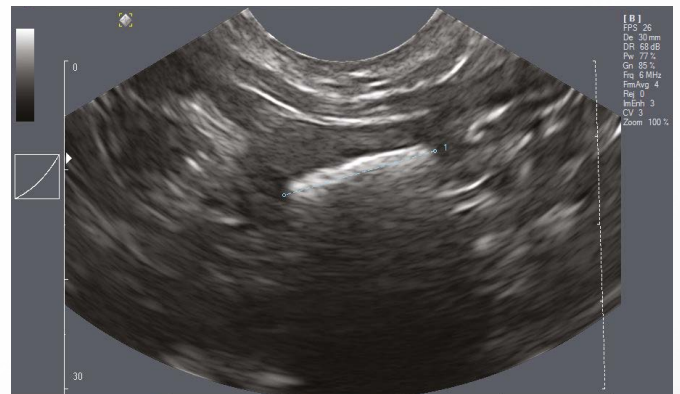
Radiograph of Bibouille at Day 0, showing a unique cystolith of 15 mm of diameter.

there was a grinding sensation. This procedure was painful for Bibouille and caused immediate urination. The urine was pink, malodorous and limited in quantity.

Additional examinations and diagnosis

Radiological examination revealed the presence of a bladder stone measuring approximately 15 mm of diameter. On ultrasound, hypertrophy of the bladder mucosa was noted (although the bladder was not distended and contained hardly any urine), together with a hyperechoic bladder mass with a shadow cone confirming the presence of a bladder stone.

Examination of the urine passed revealed the presence of blood and large numbers of struvite crystals. The urinary specific gravity was 1.020 and the pH 8.5. Laboratory examination of the urine did not detect the presence of crystals; however, urine culture was positive for *Escherichia Coli* (1,000 colonies/ml). Blood tests revealed mild dehydration (haematocrit 50%, total proteins 70 g/l) and incipient renal insufficiency (urea 0.90 g/l, creatinine 24 mg/l).



Ultrasound scan of Bibouille's bladder at D0, showing a cystolith.

Treatment and follow-up

Antibiotic treatment was established, based on marbofloxacin at a dose of 10 mg per day for 10 days.

Four days after antibiotic treatment was discontinued, a further urine sample was collected (in the clinic using an artificial litter). The urine, which was still pink in appearance, was analysed in the laboratory. Examination revealed the presence of blood but no crystals. Urinary specific gravity was 1.035 and culture proved negative.

Feline UR St/Ox Urinary, a therapeutic diet from PURINA® PRO PLAN® VETERINARY DIETS, was then prescribed. The owner was advised to give mainly the wet food, in order to promote diuresis.

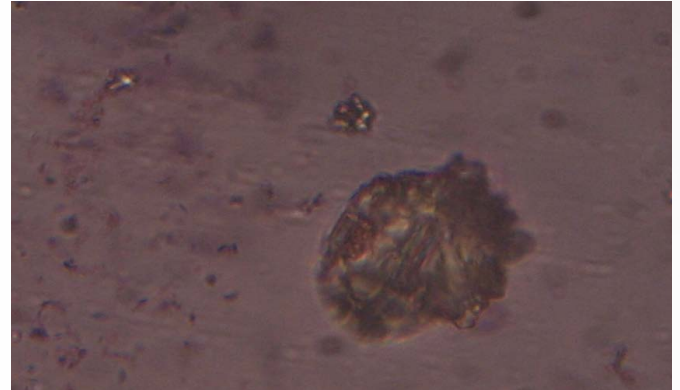
At D0 + 1 month, Bibouille showed no further symptoms. The dysuria, haematuria, soiling and incontinence had all disappeared. Radiological and ultrasound investigations were normal. The bladder stone had completely disappeared. The urine (collected using an artificial litter) was yellow with no traces of blood. Microscopic examination revealed the presence of a very small quantity of blood, numerous epithelial cells, and large numbers of struvite crystals. Urinary specific gravity was 1.046 and the pH 7.0.

At D0 + 2 months, Bibouille was in a good general state of health and no longer had any urinary symptoms. Because the bladder was not very full, urine was collected using an artificial litter. The pH was 7.0 and urinary specific gravity over 1.050. Examination of the sediment revealed the presence of numerous calcium oxalate crystals and a few unidentified crystals. Radiological and ultrasound investigations were normal. Note that, since her last visit, Bibouille had been refusing Feline UR St/Ox Urinary in cans, preferring the dry food.

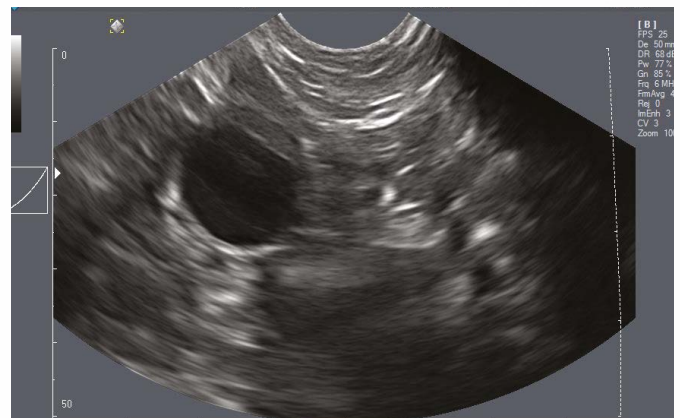
At D0 + 4 months, Bibouille was in a good general state of health; she weighed 4.5 kg, having therefore gained 0.7 kg since her first visit. She showed no further urinary symptoms but large numbers of struvite crystals were detected in her urine. Renal function had greatly improved since the first visit, renal blood parameters were normal and urine concentration was good (density 1.050). No bladder stone was found on radiography or ultrasound.

Discussion and conclusion

The owners were very satisfied with the results of the dietary management. However, Bibouille appeared to have a strong tendency to concentrate urine which, in her case, might favour the development of bladder crystals. It would probably be sensible to give her wet food only.



Microscopic examination of Bibouille's urine.



Ultrasound scan of Bibouille's bladder at D+1 month.



Ultrasound scan of Bibouille bladder D0 + 4 months.