



First Multicenter Study Showing Efficacy of Nutritional Dissolution of Struvite Uroliths in Cats Fed Dry Foods

KEY POINTS:

- First randomized, controlled clinical trial [RCCT] to show rapid dissolution of struvite uroliths in cats using dry therapeutic foods with a sodium content $\leq 0.41\%$ (dry matter basis).
- Nutritional management dissolved struvite uroliths in as little as one week (mean of 13 days for Hill's® Prescription Diet® s/d® Feline Dissolution food, and 27 days for Hill's® Prescription Diet® c/d® Multicare Feline Bladder Health food).
- Dissolution of struvite uroliths in cats using these therapeutic dry foods is safe, effective and rapid.

STRUVITE UROLITH DISSOLUTION IN CATS: A DOUBLE MASKED RANDOMIZED CLINICAL TRIAL OF TWO FOODS

LULICH JP, KRUGER JM, MACLEAY JM, ET AL. *JAM VET MED ASSOC.* 2013 (IN PRESS).

PURPOSE

To compare the efficacy, safety and dissolution times for two commercially available, low-magnesium, moderately acidifying dry foods for cats with naturally occurring, sterile struvite uroliths.

DESIGN

This was a prospective, multicenter, randomized clinical trial. 37 client-owned, neutered cats with presumed sterile struvite uroliths were randomly assigned to be fed either Hill's® Prescription Diet® s/d® Feline Dissolution dry food or Hill's® Prescription Diet® c/d® Multicare Feline Bladder Health dry food. A thorough diagnostic evaluation was conducted at baseline and each cat was evaluated weekly by physical examination, urinalysis, and abdominal radiography to assess response to treatment.

RESULTS

A total of 32 cats (25 female, 7 male) had complete urolith dissolution. Mean time (\pm SD) to observe a 50% reduction in urolith size was 0.69 ± 0.1 weeks in cats fed s/d and 1.75 ± 0.27 weeks in cats fed c/d Multicare (**Figure 1**). Mean time for complete urolith dissolution was significantly less for cats fed s/d Feline (13.0 ± 2.6 days; range of 6 to 28 days) compared with cats fed c/d Multicare (27.0 ± 2.6 days; range of 7 to 52 days) [$P < 0.002$]. At the end of the study, mean \pm SD urine pH for cats fed s/d Feline (6.083 ± 0.105) was lower

than cats fed c/d Multicare (6.431 ± 0.109) ($P = 0.029$). In 5 cats, uroliths did not dissolve and were subsequently determined to be composed of 100% ammonium urate ($n = 4$) or 100% calcium oxalate ($n=1$). Adverse events, including urinary tract obstruction, were not observed in any of the cats during the study.

CONCLUSIONS AND CLINICAL RELEVANCE

Results indicated that nutritional dissolution is rapid, safe and effective for eradication of sterile struvite uroliths in cats. Cats fed Hill's® Prescription Diet® s/d® Feline Dissolution dry food had faster urolith dissolution than cats fed Hill's® Prescription Diet® c/d® Multicare Feline dry food. Lack of a reduction in urolith size of at least 50% at two weeks after beginning nutritional management indicates incorrect diagnosis, noncompliance or ineffective treatment.

SUMMARY

Results of this clinical study provide strong scientific evidence that both foods (s/d and c/d Multicare) effectively dissolve naturally occurring struvite uroliths in cats without the need for increased dietary sodium.

NUTRITIONAL RECOMMENDATION

You can rapidly dissolve struvite uroliths in cats with either s/d Feline food or c/d Multicare. Feeding s/d Feline is associated with the most rapid dissolution time, after which cats should be transitioned to a struvite management food such as c/d Multicare. Alternately, c/d Multicare can be used for dissolution and then long-term to decrease the risk of struvite urolith recurrence, and it is an appropriate maintenance food for healthy cats in the multi-cat household.

Figure 1. Mean percent urolith dissolution by week for cats with presumed struvite uroliths that were fed either c/d® Multicare Feline ($n = 16$) or s/d® Feline Dissolution ($n=16$) dry foods.

