Measurement of Pre and Postprandial Urine Calcium to Creatinine Ratio to Identify Calcium Oxalate Urolithiasis in Miniature Schnauzers

Purpose

To determine whether testing urinary calcium at different times of day can better differentiate between dogs that have formed calcium oxalate urinary stones and healthy dogs.

Background

Miniature schnauzers have a strong breed predisposition to a type of bladder stones known as calcium oxalate uroliths. The stones can be asymptomatic—in one study up to 24% of apparently healthy schnauzers had uroliths. Uroliths can cause damage and pain, even in dogs who display no obvious symptoms. Therefore, improving our ability to diagnose these stones is important.

This study aims to determine whether testing urinary calcium at different times of day can better differentiate between dogs that have formed calcium oxalate urinary stones and healthy dogs.

Eligibility

- Male, either neutered or intact
- Over 2 years of age
- Healthy or with calcium oxalate uroliths (either current or previous history)
- Eating primarily a commercial maintenance diet (not a urinary diet)

Exclusion Criteria

- Dogs with hypercalcemia, renal disease, hyperadrenocorticism, diabetes, hyperparathyroidism will be excluded.
- Dogs must not be on prednisone, furosemide, levothyroxine, theophylline or potassium citrate.

Study Design

A screening procedure will be undertaken to check for any diseases which could influence the results. We will ask you medical history questions. Abdominal radiographs (x-rays) and a small blood sample will be taken. If recent blood test results are available then these will be used instead.

Your dog may stay overnight at the VTH or stay with you. A meal ration will be provided for the evening and morning meal. Five urine samples will be collected on the second day. These urine samples will be collected by the VTH staff by free-catch, cystocentesis (a small needle inserted into the bladder), or bladder catheterization. The method that causes the least stress to your pet will be used. The urine samples will be analyzed and retained in storage.

Compensation

The study will pay for study related procedures including a physical exam, abdominal ultrasound, urinalysis, serum biochemistry, optional overnight hospitalization for enrolled dogs (approx. $400 value). The benefit to participating in this study is that the knowledge generated may help in the prevention, diagnosis, and treatment of diseases in other dogs and potentially humans.

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If your query is urgent, please call the Small Animal Hospital (540) 231-4621 and ask for the internal medicine specialist on duty.