

CISTOMET-F & CISTOVIT-F

NUTRITIONAL SUPPORT FOR THE TREATMENT AND PREVENTION OF
CYSTITIS



CYSTITIS IN DOGS AND CATS

The disease of the feline urinary tract is common in males and females, although there are some differences in the presentation of each gender.

It is characterized by the presence of blood in urine, difficulty urinating, inability to urinate, moans during urination.

Urinary obstruction results in total or partial inability of the animal to remove urine. The partial obstruction is caused by small urethral plugs or due to the inflammation of the urinary tract. Total obstruction occurs by the formation of larger caps.

Symptoms in unobstructed cats include: frequent and difficult urination, bloody urine, urinating in inappropriate or unusual places.

Symptoms in obstructed cats: During the first 6-24 hrs. after the obstruction most patients try to urinate frequently, walk, vocalize, hide, lick their genitals, anxiety, have the externalized and congestive penis, etc. After 36-48 hrs. the symptoms of complications such as kidney failure appear: anorexia, vomiting, dehydration, depression, weakness, hypothermia, bradycardia and death.

PATHOPHYSIOLOGY

Urinary stones can not be formed unless there is sufficient conducive substances in the urine. The concentration of each of these substances must pass the point of dissolution, i.e., the solubility product. So struvite stones are formed, there must be sufficient magnesium, ammonium and phosphate ions in urine amounts.

The effect of urinary pH.

The amount of phosphate ion (PO_4^{3-}) and ammonium (NH_4^+) available to form struvite stones is directly related to urinary pH. Acidification increases the solubility of struvite crystals and so struvite stones don't form.

A decrease in one pH unit multiplies by 10 the concentration of ammonium ions but divides in 170 the concentration of phosphate ions. Therefore, the risk of formation of struvite crystals is divided by 17.

Calcium oxalate crystals are not very sensitive to changes in urine pH. Once formed, the calcium oxalate stones can not be dissolved. Conversely, pH alkalization may have beneficial preventive effects in some cases, reducing the elimination of calcium and enhancing the elimination of citrate, an inhibitor of the formation of calcium oxalate Stones.

SYMPTOMS

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CAUSES

- Lower urinary inflammation
- Urolithiasis
- Infection
- Neoplastic
- Viral
- Allergic

Diets high in magnesium predispose the formation of magnesium phosphate crystals.

The pH of urine is the most important factor which alongside the former, affects the precipitation of minerals. In acidic urine is less likely that these minerals precipitate. Therefore, balanced food of good quality have urinary acidifiers and an adequate level of magnesium in its composition. Balanced dry foods have more magnesium than wet formulas. Low quality balance food do not have any control or restriction on the amount of magnesium, so their use may predispose the problem.

Domestic cats that eat without restrictions will have less acidic urine than the animals they eat determined rations at specific times of the day.

Wild cats that eat birds and small mammals rarely have this disease since the skeleton of this animals contains a high amount of proteins that acidify the urine and a low percentage of magnesium

PREVENTION

An effective way to prevent the disease or control recurrence can be performed by correcting the predisposing factors and / or stress. Any factor that predisposes to stress in cats is able to determine the onset of many diseases, including inflammation of the lower urinary tract.

Stressful situations can arise for example due to changes of land, lack of owners, the presence of people or animals “foreigners” of the home, either temporarily or permanently, by changes in diet. etc.

Urine from cats with this disease often contains magnesium phosphate crystals (struvite). These findings determined the formulation of commercial diets that decrease the likelihood of such crystals precipitation, by reducing the addition amount of magnesium and acidifying to control urinary pH. Very good quality balanced food poses in its composition elements that encourage water consumption by the cat, thereby increasing urine volume and desire to urinate, thus decreasing the likelihood that these crystals precipitate in urine. It has been shown that the use of such diets has high efficacy in treating the disease and preventing recurrence. Inadequate diets, of low digestibility, with no control of minerals or managed in excess should be avoided.



Acidification is the most effective way to prevent struvite stones. With a urinary pH below 6.5, the formation of struvite crystals and urinary Stones is unlikely. At even lower levels, the solubility of urinary calculi increases, which has more of a healing effect than a preventive one.

A diet rich in sulfated amino acids such as methionine, contributes to the acidification of the urine.

CONCLUSIONS

Urolithiasis is always a difficult disease to treat for a veterinarian due to the remarkable effects that urolithiasis presents in the general state of the animal. It is essential to determine the type of stones present in order to enable the administration of appropriate treatment to prevent recurrence. European doctors estimate that the frequency of mixed urinary stones is in between 6 and 8%.



Currently there is a general opinion on the fact that the use of acidifying diets low in magnesium involves increasing the frequency of calcium oxalate in cats.

The only way to fight struvite and oxalate is to provide an acidifying diet that will ensure sufficient diuresis to assure that urine is not saturated in calcium and oxalate.

Disorders of the lower urinary tract (LUTD) represent approximately 7% of the causes of veterinary practice in cats (Osborne, 1995) and 3% in the case of dogs (Osborne, 1995b).

Urolithiasis is considered a LUTD cause in about 13% of cases in cats (Buffington, 1997) and 18% in dogs (Lulich, 2000).

In the dog and cat the most frequent urinary stones are magnesium ammonium phosphate (struvite) followed by calcium oxalate stones. These latter are connected with a varying amount of calcium phosphate and less frequently with struvite or ammonium urate crystals (Stevenson, 2002).

The frequency of calcium oxalate stones has increased over the last twenty years in both dogs and cats, while the frequency of struvite tends to decrease. The figures vary depending on the study, but the trend is the same in Europe and the US. American studies show a close situation to balance between the two types of urinary stones in cats. It is still not the case in Europe.

In dogs Urolithiasis affects small breeds rather than large, regardless of the type of urinary stones. The Miniature Schnauzer, Yorkshire Terrier, Shih Tzu, Toy Poodle, Bichon Frise and Lhasa Apso are among the breeds most commonly cited (Ling 1998). This predisposition to urolithiasis may be due to a lower volume of urine and the amount of voids of smaller dogs (Stevenson, 2002)

CISTOMET-F & CISTOVIT-F

ADVANTAGES:

- Two measuring scoops
- Glucosamine of the highest quality.
- Specific acidifiers for each species.



CISTOMET-F

COMPOSITION:

Lactose, Crustacean meal (contained in N-Acetyl-D-Glucosamine) 125mg

ADDITIVES PER g:

Amino acids, their salts and analogues: DL-Methionine, 60mg

ANALYTICAL CONSTITUENTS:

Crude protein 52.5% Crude Fiber: 0%, Crude oils and fats: 0.1%
Crude ash: 0.5% Methionine 4.2%

INSTRUCTIONS AND DOSAGE:

Orally. Cats: 2 g every 24 hours, mixed with food. Recurrence: 1 g every 24 hours (long term treatment)

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CISTOVIT-F

COMPOSITION:

Lactose, Crustacean meal (contained in N-Acetyl-D-Glucosamine) 125mg

ADDITIVES FOR g:

Vitamins, pro-vitamins and chemically well-defined substances having similar effect: Vitamin C (E300), 5 mg

ANALYTICAL CONSTITUENTS:

Crude protein 52.5% Crude Fiber: 0%, Crude oils and fats: 0.1%
Crude ash: 0.5%

INSTRUCTIONS AND DOSAGE:

Orally. Dogs: 1g per 10kg of weight once a day, mixed with food. Recurrence: 1g per 10kg of weight once every 2 days, mixed with food.

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