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GUINEA PIG URINARY TRACT DISEASE - CYSTITIS

Inflammation of the lining of the bladder 'cystitis' in guinea pigs is a common problem encountered in both male and female guinea pigs for a variety of reasons. This handout details some of the common clinical signs, possible causes and ways to manage this painful problem.

Symptoms
Signs of cystitis in guinea pigs include squeaking whilst urinating and defecating. Blood tinged urine sometimes with the passage of blood clots. Passing small volumes of urine frequently. It can cause inappetence (reduced food intake) and the underlying causes can lead to increased water intake, straining and difficulty passing urine.

Causes
The term 'cystitis' refers to any condition that results in inflammation of the bladder wall. The underlying causes can be related to kidney disease, bacterial infections, bladder stones, generalised inflammation without infection - often referred to as 'interstitial cystitis' or 'idiopathic cystitis'. In some species such as cats, it is well established that stress can play a part in cystitis as well and this may be an important cause for some guinea pigs. This diagnosis can only be made once other causes are ruled out.

Diagnostic investigations
There are 2 crucial first steps when investigating red discoloured urine in guinea pigs. The first is to establish if the red or pink discoloration of the urine is actually blood. The second is to determine where the blood is coming from..

The colour of guinea pig urine varies due to natural pigments and as alarming as it may look, pink or red urine can be normal. It is not as straight forward as feeding a coloured vegetable e.g. red cabbage then resulting in red coloured urine! This means it is impossible to link their diet with their urinary colour. Instead a test is performed on the urine to determine if there is blood present.

If there is blood present, further tests are used to determine if the blood is coming from the urinary tract (comprising of kidneys, ureters, bladder, urethra) or the reproductive tract (uterus and vagina in females and seminiferous tubules, prostate, penis and prepuce in males). This may involve diagnostic imaging (see later).

Further investigations may be as follows:
A urinalysis - this series of tests can establish if there is blood present, how concentrated the urine is (which can indicate if the kidneys are working normally) and what the urinary pH is.

Culture and sensitivity testing - this test can help determine if there is bacteria in the bladder which would normally have no bacteria present. This test is usually performed on a sample

taken from the bladder directly with a needle and is almost always done under sedation or anaesthesia. This test can also tell you what antibiotics are the most likely to be effective and if the bacteria are resistant to any antibiotics.
Microscopic examination or cytology - looking at the sample under a microscope can help identify certain inflammatory cells and in some cases bacteria.

Diagnostic imaging
Imaging such as ultrasound, x-rays and CT scans can provide a wealth of information. It can show the presence of stones in the urinary tract, issues of the reproductive tract such as ovarian cysts which can also cause blood in the urine, abnormalities of the kidneys or other parts of the urinary and reproductive tracts such as tumours may also be visible.

Biopsies
If no underlying cause is found then biopsies of the bladder wall or kidneys may help understand the potential cause and how best to manage it.

Treatment
Treatment varies depending on the underlying cause.

- Pain relief and anti-inflammatory drugs are commonly prescribed.
- Antibiotics are used to treat infections.
- Surgery - In cases where the underlying cause is reproductive disease or where there are stones present in the urinary tract surgery may be required.
- Supplements - Interstitial cystitis or idiopathic cystitis is a term used to describe pain on urination where no known underlying cause is found. These cases can respond to the use of dietary supplements used to re-establish the normal bladder wall barrier. Vitamin C supplementation may also be helpful in guinea pigs who are unwell

Home Management
Regardless of the underlying cause there are strategies you can employ at home to help you observe and manage your guinea pig if you are concerned about cystitis.

Placing your guinea pig on pale coloured towels or fleeces for bedding. This can help you monitor for blood in the urine. Take photographs of anything you are concerned about to show your vet at their next visit.

Monitoring and recording your individual guinea pigs weights regularly should form part of your normal routine but particularly if one is unwell.

Making a point of observing for any sounds of pain or discomfort when urinating or defecating. It is also important to make sure they are passing urine. Blocked bladders are an emergency.

Increasing water intake can be helpful - some guinea pigs prefer to drink out of bowls. Offer several water bottles and heavy ceramic bowls of fresh water. Some of these should be fresh water and others with a small amount of fruit or vegetable juice in them. This can encourage a higher water intake which can be useful in cystitis cases.