CHRONIC RENAL FAILURE IN CATS

What do my cat's kidneys do ?

Kidneys have many functions, they principally act to remove nitrogenous waste products from the blood stream, maintain essential nutrients e.g. potassium at the correct level, maintain hydration and produce urine.

What is chronic renal failure ?

The kidneys have a large amount of spare capacity to perform their various functions so at least 70% of the kidneys need to be dysfunctional before clinical signs are seen. In many cases this means that the damage to the kidneys has been occurring over a number of months or years (chronic) before failure is evident. As chronic renal failure (CRF) is most commonly seen in old cats, early signs of disease such as weight loss and poor coat quality are often put down to normal ageing. In the initial stages of disease the kidneys cope with their inability to concentrate waste products by excreting them at a lower concentration over a larger volume (compensated renal failure), at some point this is no longer possible resulting in a relatively rapid rise in waste products in the bloodstream and an apparent sudden onset of severe disease.

What are the causes of CRF ?

A large number of different disease processes can eventually lead to CRF including:-

1. Congenital malformations of the kidneys - e.g. polycystic kidneys in long haired cats.

2. Bacterial infections (pyelonephritis).

3. Glomerulonephritis - damage to the filtration membrane.

4. Neoplasia - various tumours of the kidney are seen, most commonly lymphosarcoma.

5. Amyloidosis - this is the build up of an unusual material in the kidney which prevents the kidney from functioning normally.

6. Viral infections e.g. feline immunodeficiency virus or feline infectious peritonitis virus.

CRF is therefore the end stage of a number of different disease processes rather than a specific condition in its own right.

A Lifelearn Product from:
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How is the disease diagnosed ?

Renal failure is usually diagnosed by looking at the level of two waste products in the bloodstream, blood urea and creatinine. Tests to measure the blood levels of other substances e.g. potassium, phosphorus and calcium as well as the red and white blood cell counts can also be important in order to determine the best course of treatment.

Could the renal failure have been diagnosed earlier ?

Unfortunately this is very difficult as neither clinical signs of renal failure nor rises in BUN and creatinine are evident until significant loss of kidney function has occurred. In earlier stages of disease there are no clinical signs to indicate that sophisticated renal function tests, which can pick up early renal damage, are required.

How does CRF affect my cat ?

Because the kidneys perform a variety of different functions, the clinical signs of renal failure can be somewhat variable. The most common changes seen are weight loss, poor hair quality, halitosis (bad breath), variable appetite which may be associated with mouth ulcers, lethargy and depression. Less commonly cats are seen to drink and urinate more and some will have vomiting and diarrhoea. Rarely renal failure is seen as sudden onset blindness.

What treatments are available ?

Depending on the results of blood tests your veterinary surgeon may be faced with several problems which require different treatments. Don't worry if the list below seems so long that your will never be able to administer all the medication, the majority of cats can be effectively managed with diet change including supplementation and one or two other treatments.

1. Lowering the level of waste products in the bloodstream can be achieved by low protein and low phosphorus diets. These can be prepared at home or are available ready prepared from your veterinary practice. The palatability of reduced protein diets is usually not as high as normal cat food, so you may have to persevere for a while before your cat will eat it.

2. Phosphate binders - despite low phosphate in the diet, blood phosphorus levels remain above normal in some cats. Reducing blood phosphorus can have a major effect on improving your cat's well being and slowing disease progression. Phosphate binders e.g. aluminium hydroxide are given by mouth to further lower the amount of phosphorus absorbed through the gut wall.

3. Antibiotics - many cats seem to respond well to antibiotics though the reason for this is not always clear.

4. Potassium supplementation - cats in renal failure tend to loose too much potassium in the urine this leads to muscle weakness, stiffness and poor hair

quality. Low potassium may also contribute to the worsening of the kidney failure.

5. Vitamins B and C - these vitamins are wasted by the kidney and need daily supplementation.

6. Hypotensive drugs - significant numbers of cats have high blood pressure because of their renal failure in some cases lowering their blood pressure may be necessary.

   (Treatment of anaemia - the kidneys also have a function to initiate the production of red blood cell in the bone marrow. Many cats with CRF are anaemic due to a lack of stimulation of the marrow. Stimulation of the marrow can be achieved by the use of some anabolic steroids in high dosages. More recently, however, the hormone that the kidney itself produces to stimulate the bone marrow has become available and generally produces a better and more reliable increase in the red blood cell count although it is very expensive and difficult to obtain in Australia.)

IT IS IMPORTANT THAT FRESH WATER IS AVAILABLE AT ALL TIMES AS CATS WITH RENAL FAILURE TEND TO DEHYDRATE RAPIDLY.

What is the cost of treatment ?

Treatment costs will vary somewhat with each individual case. In the majority of cases long term management is unlikely to cost more than a few dollars a week.

How long can I expect my cat to live ?

Unfortunately, once damaged the kidneys have a very limited ability to recover but progress of disease may be very slow so, with treatment, your cat may have several years of good quality, active life ahead.

Are kidney transplants available for cats ?

Cost per transplant is about $8,000.

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