



勝利動物醫院
Victory Animal Hospital

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Blk B, 1/F, Chung Yuen Mansion, 71b Waterloo Rd., Kln, Hong Kong

Phone: 852 2711 0332

Email: info@globavet.com

Glomerulonephritis in Cats

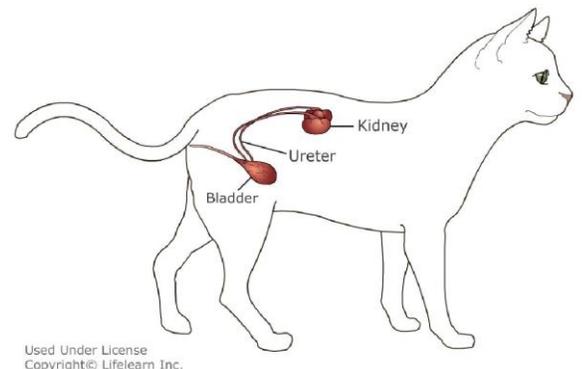
What is glomerulonephritis?

Glomerulonephritis, is a specific type of renal (kidney) disease characterized by inflammation of the *glomeruli*, which are the tiny structures in the kidneys that act as filters for the blood. Glomerulonephritis occurs when immune complexes (mixtures of antibodies and antigens) are filtered out of the bloodstream and become trapped within the glomeruli. When these compounds are trapped, the body responds by activating its immune defenses, resulting in further damage to the glomeruli.

What causes glomerulonephritis?

Any condition that causes chronic stimulation of the immune system, resulting in the formation of immune complexes, can cause glomerulonephritis. Some possible inciting causes include:

- Chronic periodontal (dental) disease
- Cancer
- Heartworm infection
- Feline Leukemia Virus (FeLV)
- Feline immunodeficiency virus (FIV)
- Feline Infectious Peritonitis (FIP)
- Pyometra (a bacterial infection of the uterus)
- Endocarditis (bacterial infection in the heart, often secondary to periodontal disease)
- Chronically inflamed skin
- Immune-mediated diseases (such as lupus erythematosus or discoid lupus)
- Chronic pancreatitis



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In many cats with glomerulonephritis, the inciting cause cannot be found and the problem is said to be *idiopathic*.

The most common clinical sign of glomerulonephritis is blood in the urine. Since the filtering ability of the glomeruli is impaired, there is usually an elevated amount of protein in the urine. Some cats will demonstrate no clinical signs and the only early evidence of this disease will be an elevated amount of protein on a routine urinalysis. The majority of cats with glomerulonephritis will be lethargic, with a poor appetite or anorexia and weight loss. Many will have increased thirst and urination; intermittent vomiting is also very common. Approximately 70% of patients will eventually develop chronic renal failure.

To definitively diagnose glomerulonephritis, a biopsy of the kidney is needed. In most cases, urine tests are sufficient to presumptively diagnose the presence of glomerular disease. Significant *proteinuria* (protein loss in the urine) is typically found on a routine urinalysis. Often the urine will also contain *hyaline casts*, which are proteins that are in the shape of the renal tubules and indicate damage to those structures. A *urine culture* is helpful to eliminate bladder infection as a cause of the proteinuria. A test called a *urine protein to creatinine ratio* can be performed on the urine sample to determine the actual amount of protein loss.

Other tests that are necessary to complete the diagnostic work-up include:

- *Complete blood count (CBC)* to identify anemia, inflammation, infection or low platelet count
- *Serum chemistry tests* to identify low blood protein concentration and high blood cholesterol concentration
- *Blood pressure measurement* to identify systemic hypertension
- *Radiographs or ultrasound* of the kidneys to search for obvious masses or abnormal kidney shape and size
- *Kidney biopsy*, to identify glomerulonephritis conclusively and to differentiate it from amyloidosis, which is another kidney disease that affects the glomeruli.

How is glomerulonephritis treated?



The ideal treatment for glomerulonephritis is determined by identifying the underlying infectious, inflammatory or cancerous disease that is causing the immune system to create the immune complexes that are being trapped in the glomeruli. Unfortunately, in as many as 75% to 80% of the cases with glomerulonephritis, no underlying disease process can be identified, or if one can be identified, it cannot be cured.

Some common treatments for glomerulonephritis include:

- Immunosuppressive drugs to suppress immune complex formation.
- Omega-3 fatty acid supplementation to help reduce the inflammatory response and prevent clotting.
- Angiotensin-converting enzyme (ACE) inhibitors to minimize protein loss in the urine and to help control blood pressure.
- Medications to control high blood pressure.
- Specialized diets may be used in some instances.

The prognosis for glomerulonephritis is based on your cat's specific condition and severity. In general, this is a potentially serious condition requiring extensive diagnostic tests and treatments. Your veterinarian will discuss a diagnostic and treatment plan for your cat to help you manage this serious condition.