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GLOMERULOPATHIES: SIMILAR SYMPTOMS BUT DIFFERENT CHARACTERISTICS MAKE OR BREAK THE PROGNOSIS

The glomerular functions can be divided in clearance and selection. Although these both result from the same structure, there can be a considerable variance in their degree of (dys)function depending on the nature of the glomerular changes.

The glomerular filtration rate will be influenced by the quality of the membrane but even more so by the amount of functional membrane left and the degree of pressure difference that can be generated over the membrane.

Preventing passage of proteins is predominantly based on maintenance of a negative charge in the basal membrane and podocyte architecture keeping the pores at around Albumin size. The pressure gradient will also influence the membrane selectivity but not profoundly.

Even though there are many different reasons for glomerular damage, there is only a limited array of responses that will occur in the glomerulus and these generally result in loss of permeability (leading to proteinuria) and/or loss of filtration rate (decreasing GFR leading to azotemia).

To detect and assess the severity of glomerular damage it is not only vital to combine urinalysis with blood chemistry, annotating and monitoring specific parameters over time will also give clues on the nature and prognosis of glomerulopathies.

This will help when considering additional diagnostics such as renal biopsies and to find balance through a stepwise approach to (symptomatic) treatment plans and to assess prognosis.

For more detail see

- Consensus recommendations for the diagnostic investigation of dogs with suspected glomerular disease.
- IRIS Canine GN Study Group Diagnosis Subgroup, Littman MP, Daminet S, Grauer GF, Lees GE, van Dongen AM.
- J Vet Intern Med. 2013 Nov-Dec;27 Suppl 1:S19-26. doi: 10.1111/jvim.12223.