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MyLav ***European Veterinary Renal Pathology Service (EVRPS)*** *plays a central role in advancing the diagnosis and management of renal diseases in dogs through comprehensive pathological consultation services.*

Specializing in ***light microscopy (LM), immunofluorescence (IF), and transmission electron microscopy (TEM)****, the EVRPS offers expert-level diagnostic support to veterinary professionals.*

EVRPS collaborates closely with veterinarians—particularly nephrologists and specialists in academic and private practice—by providing ***renal biopsy kits, sample tracking services, and follow-up consultations.***

This integrated approach ensures timely, accurate, and actionable pathological interpretations, forming the basis for evidence-based therapeutic decisions in cases of glomerular and other renal diseases.

This document outlines the current guidelines provided by EVRPS for the treatment and monitoring of canine glomerular diseases, including standard therapeutic protocols, recommendations for immunosuppressive therapy in immune complex glomerulonephritis (ICGN), and structured follow-up algorithms.

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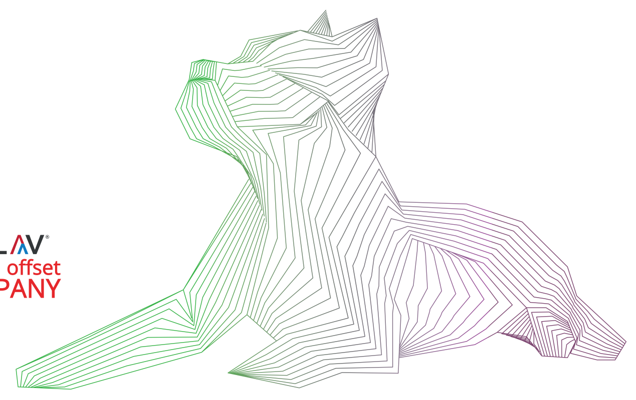

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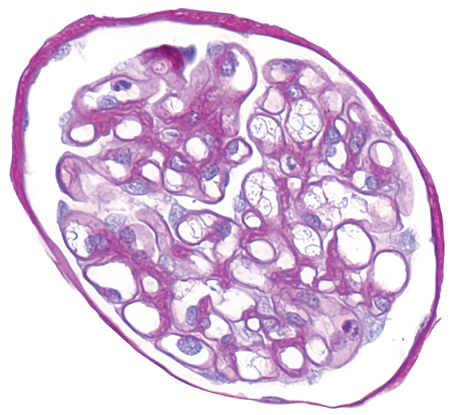
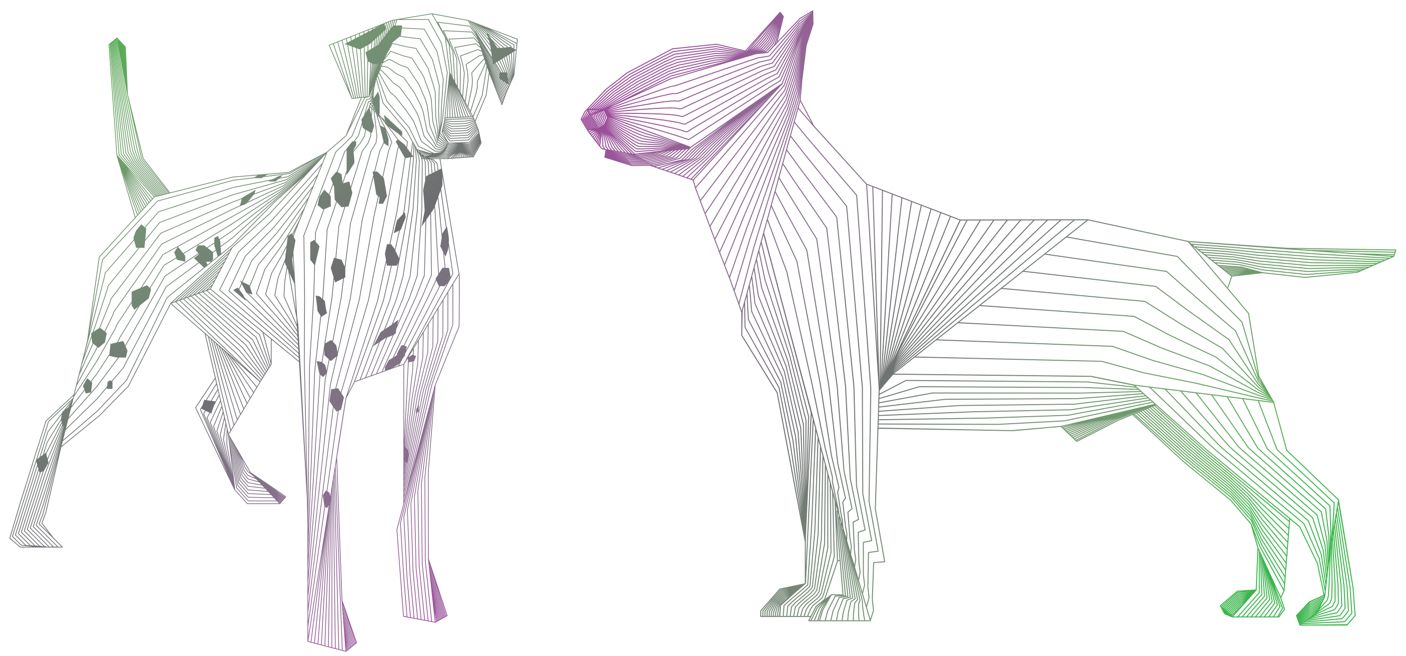


Treatment Guidelines for Dogs with **Glomerular Disease**



1) What are the standard treatment recommendations for glomerular disease in dogs?

EVRSP reccomends the following treatments:

a. Telmisartan 1-3 mg/kg PO q24h or benazepril 0.5-2 mg/kg PO q24h.
b. Renal diet, if not contraindicated (e.g., food responsive enteropathy).
c. Antithrombotic therapy: rivaroxaban 1-2 mg/kg PO q24h, or clopidogrel 1-3 mg/kg PO q24h, or rivaroxaban 1-2 mg/kg PO q24h + clopidogrel 1-3 mg/kg PO q24h; prescription of antiplatelet and anticoagulant therapy can be considered when the risk of thrombosis is felt to outweigh the increased risk of bleeding resulting from their combination.[1]
d. Antihypertensive therapy according to ACVIM consensus statement.[2]

2) What is the appropriate approach to adjusting angiotensin-converting enzyme inhibitor (ACEi) therapy in dogs with proteinuria?

The EVRPS recommends adhering to the guidelines established by the IRIS Canine Glomerulonephritis Study Group Standard Therapy Subgroup and following the treatment algorithm provided in this document to guide clinical decision-making:

Initial dosage of ACEi → 1-2 weeks: Evaluate Serum Creatinin (SCr), potassium (K), Blood Pressure (BP)

- SCr, K and BP within tolerable limits*, continue therapy at current dosage
- SCr, K or BP not within tolerable limits*, discontinue ACEi and add alternate therapy (e.g., ARB or calcium channel blocker) and monitor as suggested with ACEi

2-4 weeks: Evaluate SCr, K, BP, UPC

- UPC <0.5 or reduction >50% AND SCr, K and BP within tolerable limits, maintain current dosage
- UPC > 0.5 or reduction <50% AND SCr, K and BP within tolerable limits, increase ACEi dosage
- SC, K or BP not within tolerable limits, return ACE to initial dosage and add alternate therapy (e.g., ARB or calcium channel blocker) and monitor as suggested with ACEi

4-6 weeks: Evaluate SCr, K, BP, UPC

- UPC <0.5 or reduction >50% AND SCr, K and BP within tolerable limits, maintain current dosage
- UPC >0.5 or reduction is <50% and SCr, K and BP within tolerable limits, increase ACEi dosage in appropriate increments up to maximum daily dose
- SCr, K or BP not within tolerable limits, return ACEi to previous dose and alternate therapy (e.g., ARB and calcium channel blocker) and monitor as suggested with ACEi

*__Tolerable limits:__ SCr change generally considered tolerable in CKD stage 1 or 2 if <30% above baseline; in CKD stage 3 <10% but in stage 4 no increase in SCr may be tolerable. K tolerable when <6.0 mmol/L. Systolic BL should be AP2 (160-179 mmHg) or lower; BP decline acceptable as long as systolic BP >120 mmHg.

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3) When is immunosuppressive treatment recommended for immune complex glomerulonephritis (ICGN) in dogs?

The EVRPS recommends immunosuppressive treatment only for dogs with stable or slowly progressive glomerular disease. This condition is defined as persistent or minimally progressive proteinuria in the absence of azotemia, or with stable azotemia, no clinical signs of uremia, normal or mildly decreased serum albumin levels (i.e., >2.0 g/dL), and no evidence of peripheral edema or ascites.

4) What immunosuppressive strategies are recommended for dogs with stable or slowly progressive ICGN?

The EVRPS recommends the following immunosuppressive treatment regimens:

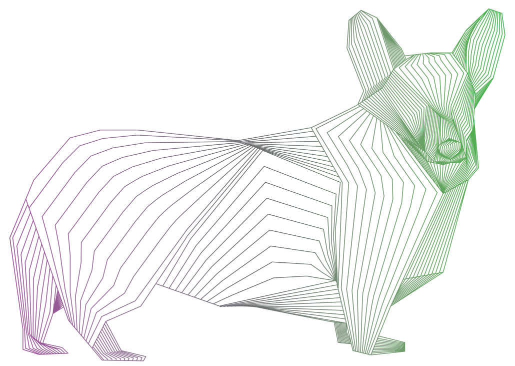
Membranous glomerulonephritis (MGN)/mixed MGN:
a) Cyclosporine 5 mg/kg PO q12-24h + prednisolone 1 mg/kg PO q12h
b) Mycophenolate 10 mg/kg PO q12h + prednisolone 1 mg/kg PO q12h

Focal segmental glomerulosclerosis (FSGS) type II:
a) Cyclosporine 5 mg/kg PO q12-24h + prednisolone 1 mg/kg PO q12h
b) Mycophenolate 10 mg/kg PO q12h + prednisolone 1 mg/kg PO q12h

Membranoproliferative glomerulonephritis (MPGN)/mixed MPGN:
a) Chlorambucil 0.2 mg/kg PO q24-48h + prednisolone 1 mg/kg PO q12h
b) Mycophenolate 10 mg/kg PO q12h + prednisolone 1 mg/kg PO q12h

Mesangioproliferative glomerulonephritis (MeGN):
a) Cyclosporine 5 mg/kg PO q12-24h + prednisolone 1 mg/kg PO q12h
b) Mycophenolate 10 mg/kg PO q12h + prednisolone 1 mg/kg PO q12h

References:
1. Blais M-C, Bianco D, Goggs R, et al. Consensus on the Rational Use of Antithrombotics in Veterinary Critical Care (CURATIVE): Domain 3—Defining antithrombotic protocols. Journal of Veterinary Emergency and Critical Care, 29:60–74, 2019.
2. Acierno MJ, Brown S, Coleman AE, et al. ACVIM consensus statement: Guidelines for the identification, evaluation, and management of systemic hypertension in dogs and cats. Journal of Veterinary Internal Medicine, 32:1803–1822, 2018.
3. IRIS Canine GN Study Group Standard Therapy Subgroup; Brown S, Elliott J, et al. Consensus recommendations for standard therapy of glomerular disease in dogs. Journal of Veterinary Internal Medicine, 27 Suppl 1:S27-43, 2013.



5) How should a dog with ICGN under immunosuppressive treatment be monitored?

The EVRPS recommends to use the following algorithm:

Initial dose of immunosuppressive drug → 1–2 weeks, CBC[a], biochemistry profile, UPC

- no adverse effects → 2–4 weeks
- minor adverse effects → supportive treatment
  - resolution of clinical signs → 2–4 weeks
  - persistent clinical signs → stop immunosoppressive drug, supportive treatment and restart at lower dosage or change drug once clinical signs resolved
- major adverse effects → stop immunosoppressive drug, supportive treatment and restart at lower dosage or change drug once clinical signs resolved

2–4 weeks, CBC[a], biochemistry profile, UPC

- UPC <0.5, creatinine <1.4 mg/dL, albumin >2.5 g/dL, maintain current dosage[b]
- UPC reduction >50%, creatinine reduction ≥25%, albumin 2.0-2.5 g/dL/increase ≥50%, consider increasing dosage up to maximal daily dosage[b]
- UPC reduction <50%, creatinine reduction <25%, albumin <2.0 g/dL/increase <50%, consider increasing dosage up to maximal daily dose or switch to alternative drug[b]

Abbreviations: CBC, complete blood count; UPC, urine protein to creatinine ratio.
(a) If mycophenolate/chlorambucil used or if signs of infection present.
(b) taper down prednisolone as soon as possible.