

Immune-Mediated Neutropenia

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In the Literature

Devine L, Armstrong PJ, Whittemore JC, et al. Presumed primary immune-mediated neutropenia in 35 dogs: a retrospective study. *J Small Anim Pract.* 2017;58(6):307-313.

FROM THE PAGE ...

This retrospective study examined records of a cohort of dogs with presumed primary immune-mediated neutropenia. Included in the study were 35 dogs with neutrophil concentrations $<1.5 \times 10^9$ cells/L (based on a minimum of 2 CBCs) and for which other causes of neutropenia or secondary immune-mediated neutropenia were excluded. The authors sought to describe presenting clinical characteristics, CBC results, bone marrow characteristics, therapies used, clinical response to treatment, and outcomes at 6 months and one year.

The most common presenting clinical complaints included lethargy and anorexia (63%); 46% of dogs had increased body temperature. Neutropenia was $<0.5 \times 10^9$ cells/L in 60% of dogs; 8 had thrombocytopenia, which was severe in 3 dogs. Twenty-three dogs had myeloid hyperplasia, 10 had myeloid hypoplasia, and 2 had normal myelopoiesis. Serum chemistry results included elevated liver values and various electrolyte abnormalities. Abdominal ultrasonographic images and thoracic and abdominal radiographs were unremarkable in most cases; splenomegaly was the most common finding. Dogs were started on a corticosteroid initially; 43% required adjunctive treatment using either azathioprine or cyclosporine. Neutropenia resolved in 32 of 33 dogs within 2 weeks of beginning treatment and in all dogs within 1 month.

Although response rates for resolution of neutropenia were rapid in this report, other cytopenias may take longer to resolve or may require additional treatment. In addition, relapse was common in this study (34.3%), emphasizing the need for consistent patient follow-up and the need for further studies to determine optimal therapy—in particular, steroid doses, treatment duration, and secondary immunosuppressive drugs.

A diagnosis of immune-mediated neutropenia remains a diagnosis of exclusion. Because it is considered an uncommon cause of neutropenia,¹⁻³ testing to exclude other causes should include urine culture, abdominal ultrasonography, thoracic radiography, and vector-borne disease testing. Other infectious disease (eg, fungal, parvovirus) testing may be warranted depending on the patient's geographic location, age, and vaccination status. In one retrospective evaluation of neutropenia, nonbacterial infectious diseases were found most commonly.⁴

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** Because immune-mediated neutropenia remains primarily a diagnosis of exclusion, ancillary testing is important to exclude other causes of neutropenia.
- 2** Although the initial response to treatment appears favorable and fast, owners should be educated about the need for follow-up due to potential relapse during drug tapering or treatment cessation.
- 3** Although the ideal secondary immunosuppressive drug remains unknown, additional therapies beyond glucocorticoids can be considered to maintain remission.

References

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