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Fachtierärzte Althangrund[1], 1090 Wien, Österreich, Labor Dr. Abigail Guija-de-Arespacochaga[2], 2380 Perchtoldsdorf, Österreich

Successful Treatment of Idiopathic Aplastic Pancytopenia in a One-Year-Old Female American Pit Bull Terrier with Prednisolone

L. Zovko[1], A. Rose[1], M. Pagitz[1], A. Guija-De-Arespacochaga[2]

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Introduction: Idiopathic aplastic pancytopenia is a rare bone marrow disorder characterized by pancytopenia with bone marrow hypoplasia and replacement of haematopoietic cells with adipose tissue and fibrosis (Brazzell & Weiss 2006). This case report describes a 1.5-year-old unspayed female American Pit Bull Terrier with pancytopenia that presented due to acute lethargy.

Case description: Clinical examination revealed anaemic mucous membranes and an internal body temperature of 40.3 °C. Haematological examination showed pancytopenia with mild normocytic normochromic non-regenerative anaemia, severe leukopenia with severe neutropenia, and severe thrombocytopenia. PCR for *Ehrlichia* spp., *Anaplasma* spp., *Babesia* spp., *Hepatozoon* spp., serology for *Ehrlichia* spp., *Anaplasma* spp., *Borrelia burgdorferi*, and *Dirofilaria immitis* antigen were negative. Faecal canine parvovirus antigen was negative. Thoracic and abdominal radiographs and an abdominal ultrasound were unremarkable except for a mild hepatomegaly and splenomegaly. Initial therapy with maropitant, metamizole, and amoxicillin-clavulanate was started and a bone marrow aspiration was performed. Bone marrow cytology was hypocellular and contained few mesenchymal cells and occasional dysplastic myeloid and erythroid precursors. Megakaryocytes, neutrophils and blasts were only sporadically visible. Subsequent histopathological examination showed a hypoplasia/aplasia of the bone marrow. Treatment with prednisolone 2 mg/kg SID IV was initiated. A control of the haematological parameters after five days showed an increase in the haematocrit, neutrophils and thrombocytes. A clinical follow-up three weeks later showed good general condition and the haematological control was unremarkable. The prednisolone dose was gradually reduced every two weeks following clinical and haematological control. Four months after starting the therapy prednisolone was discontinued. Clinical and haematological controls after one, three and eight months were unremarkable.

Discussion: Idiopathic aplastic pancytopenia can be induced by infectious agents, drugs and toxins (Weiss et al. 1999). In the absence of a known inciting agent the term idiopathic is used but an immune-mediated cause is suspected. There are only a few case reports in the literature which were associated with high mortality (66–80 %). Median survival times were two to three weeks (Kelly et al. 2020).

Conclusion: Idiopathic aplastic pancytopenia is a rare bone marrow disorder with a poor prognosis. Accurate diagnostics, requiring not only a bone marrow aspiration but also a biopsy for histological examination, are necessary for diagnosis. This case shows that an adequate and long remission can be achieved with a simple immunosuppressive therapy using only prednisolone.

References

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Corresponding Author: Lana Zovko, E-Mail: lzovko@althan.vet