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PAGES: 177-177

ORIGINAL PDF URL: <https://dergipark.org.tr/tr/download/article-file/2835865>

## **Immune-induced optic neuritis in a maltese terrier dog treated with immunosuppressive steroid**

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### **Abstract**

Optic neuritis is a clinical syndrome characterized by unilateral or bilateral acute visual loss and variability in the pupillary light reflex (PIR), mainly observed in small and medium-sized breeds. It may occur due to traumatic, infectious, toxic reasons and nutritional problems, as well as mostly due to Granulomatous Encephalitis (GME). GME is an inflammatory disease characterized by granulomatous lesions, nonsuppurative meningitis in the central nervous system. Since the optic nerve is also an extension of the forebrain, optic neuritis is also seen as a form of GME. Fundus examination of most dogs with optic neuritis may show changes in the optic nerve head and peripapillary region. Magnetic Resonance Imaging (MRI), complete neurological and ophthalmological examination, cerebrospinal fluid (CSF) and blood tests should be performed in the differential diagnosis of other causes that cause acute blindness. Our case consisted of a 7-year-old Maltese Terrier male dog brought to Istanbul University-Cerrahpasa Veterinary Faculty Surgery Clinic with the complaint of sudden blindness. In the neurological examination, PLR and menace response in both eyes were lost. Ophthalmological examination revealed edema at the right optic nerve head and increased intraocular pressure. Cranial MRI revealed focal nodular enhancement of 5-6 mm on the right of the optic chiasm. Cytological and microbiological examination of CSF revealed no abnormal findings. Complete blood count, routine biochemistry and thyroid function tests were normal. Immediately, intravenous immunosuppressive dose steroid and osmotic diuretic serum treatment was started. On the third day, we were informed that the patient was following moving objects at home. On the fourth day, it was seen that the menace response returned in both eyes, the PLR was normal on the left and weak on the right, and immunosuppressive dose steroid therapy was continued. After a month, it was determined that the nodular contrast involvement in the optical chiasm align in repeated MRI was completely lost and the patient's neurophthalmologic findings disappeared. With this presentation, we wanted to emphasize the importance of evaluating the evaluation with MRI for the early separator diagnosis and treatment of patients with acute blindness and PLR loss in dogs.

**Keywords:** dog, optic neuritis, granulomatous encephalitis, mri

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