

## Unilateral oculomotor nerve palsy secondary to Waldenstrom's macroglobulinemia: A Case Report

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**Abstract:** Waldenstrom's macroglobulinemia (WM) is a rare lymphoproliferative disease characterized by involvement of the reticular endothelial system by proliferation of monoclonal immunoglobulin M proteins and malignant lymphatic plasma cells in the serum. Extramedullary involvement of WM was rarely reported in previous literatures, except for spleen and lymph nodes. Here, we reported the first case of WM presenting with diplopia caused by paranasal sinuses involvement and secondary oculomotor nerve palsy.

**Case:** A 51-year-old male initially visited complaining of nasal obstruction and diplopia to department of otolaryngology. Computed tomography scan of paranasal sinuses revealed ill-defined infiltrative soft tissue lesions in bilateral maxillary, ethmoidal, frontal, sphenoidal sinuses and nasal cavities. In serum protein electrophoresis and immunofixation, monoclonal gammopathy of IgM and lambda type was revealed. Pathologically, WM was identified by bone marrow examination and surgical biopsy in the cervical lymph nodes, nasal cavity, and body cavity sinus of this patient. Follow-up ophthalmic examinations showed that binocular diplopia, right hypertropia, and right exotropia were worse than initial findings. Limited right superior and medial gaze was also observed due to third cranial nerve palsy. Brain magnetic resonance imaging showed no obvious abnormalities in the cavernous and brainstem area where cranial nerves III, IV, and VI are located. Although partial response (PR) was achieved after 6 cycles of combination chemotherapy with rituximab, bortezomib, lenalidomide and dexamethasone, third cranial nerve palsy was remained. Nonetheless, The patient has good regular outpatient follow-up through maintenance treatment with lenalidomide and dexamethasone in PR state.

**Conclusion:** To our knowledge, this is the first reported case of unilateral oculomotor nerve palsy caused by involvement of paranasal sinuses and nasal cavity in patient with WM. We emphasize that if unexplained third cranial nerve palsy and unusual neurologic abnormalities progress in patients with WM, physicians should consider this potential complication in their differential diagnoses.

