

# CASE REPORT

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## APPEARANCE OF OCULAR MULTIPLE MYELOMA DURING REMISSION PERIOD: A RARE CASE REPORT

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**ABSTRACT:** We report a case of a 54-year-old female with history of multiple myeloma on remission with bortezomib-dexamethasone regimen treatment presents with enlargement and coming out of her right eye with pain, swelling, tearing and pain in the backbone. On examination, it was found that she has proptosis, chemosis, and diplopia along with marked diminution of vision. Initial workup and treatment did not yield significant results; eventually she was found to have myelomatous changes in her right orbit on CT scan & magnetic resonance imaging (MRI) of orbit and was diagnosed with multiple myeloma of the orbit that resolved some amount with radiation. This case tends to highlight the importance of considering myeloma of the orbit in a multiple myeloma patient who is on remission with chemotherapy.

**KEYWORDS:** Magnetic resonance imaging, chest, adult, blood, brain.

**INTRODUCTION:** Multiple Myeloma is a malignant proliferation of plasma cell and plasmacytoid cells characterized nearly always by the presence, in the serum and/or urine, of a monoclonal; immunoglobulin (Ig) or Ig fragment. In fact, practically. The ophthalmic manifestations of multiple myeloma can be seen in every ocular structure. Even in some rare cases ocular findings may be the first manifestations of the disease. It can also occur as one of the extramedullary manifestations of the disease or as the first sign of inadequate chemotherapy. Multiple myeloma may cause ocular pathology by various mechanisms like direct infiltration or as extramedullary plasmacytomas resulting in displacement or compression of tissues, by causing hyperviscosity syndrome, and by immunoglobulin light chain deposition in ocular tissues. Our patient the patient 45 years old female is a diagnosed case of multiple myeloma on bortezomib-dexamethasone regimen and on remission. Ocular myeloma developed at her right eye during the remission period; by possible mechanisms like direct infiltration or by immunoglobulin light chain deposition in ocular tissues. To our knowledge, such incidence has not been reported in literature so far. A few cases of multiple myeloma presenting as retro-orbital plasmacytoma has been reported in literature.

**THE CASE:** A 54 -year-old adult female patient came to OPD with complains of enlargement and coming out of her right eye associated with pain, tearing and pain in the backbone and chest since one months.[Fig. 1], and skeletal survey was suggestive of radiolucent osteolytic lesion of skull, pelvis and spine along with pathological fracture of mandible; this was consistent with her history of multiple myeloma. Her routine blood examination was normal except high ESR and low total RBC count. However, the patient was in remission at the time of presentation. Medication included bortezomib, dexamethasone, and zoledronic acid. She was admitted as inpatient and palliative radiation to the spine was given.

# CASE REPORT

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The visual acuity was 8/20 in the right eye and 20/25 in the left eye. Both anterior and posterior chamber was oedematous and enlarged with no sign of haemorrhage. CT scan of the orbit showed a large heterogeneously enhancing soft tissue attenuated lesion extending from the region of the right masseter muscle extending cranially up to the right parietal scalp. The lesion is highly locally invasive with erosion of the squamous and parietotemporal bone. The lesion extends intracranially and lies in the extra-axial position of right temporal lobe of brain with effacement of the sulcal spaces. Extension of the lesion into the posterior aspect of right frontal lobe is also seen. There is also erosion of the right hemi-mandible and roof of the right orbit. Extension of the lesion into the superior aspect of the orbit is also seen with invasion of the superior rectus muscle. MRI of orbit demonstrated its extension to the orbit through superior rectus muscle compressing the eye ball causing proptosis [Fig. 2]. CT guided biopsy from the lesion was suggestive of multiple myeloma. [Fig. 3] With a history of multiple myeloma, myeloma of the orbit was now diagnosed. Her treatment was continued. However, she died 4 months later due to complications from her progressive cancer.

**DISCUSSION:** Incidence of multiple myeloma occurring at orbit is rare, but a serious condition. Involvement of almost every ocular structure has been reported.<sup>1,2</sup> Most common clinical presentation of orbital involvement includes proptosis, redness, pain, diplopia, and decreased vision. Proptosis was also noted to be a sign of recurrence of multiple myeloma in patients who are thought to be in remission.<sup>3</sup> In contrast, our patient developed proptosis during the remission period. Unilateral involvement of one eye is more common<sup>4</sup> which is seen in our case. It is argued that myelomatous changes of the orbit are common, even though clinical presentation is extremely rare<sup>5</sup>. Our patient had both aggressive clinical presentation as well as myelomatous changes of the orbit. Solitary extramedullary orbital plasmacytoma as an initial presenting feature in a multiple myeloma patient has also been reported.<sup>6</sup> Our patient had plasmacytoma like lesion extending to the orbit through superior rectus muscle. In most of the cases reported, CT scan was the imaging modality of choice; in our case it was helpful to make diagnosis besides CT guided biopsy.<sup>7</sup> Treatment options include systemic chemotherapy and local radiation and often good response to these options is noted.<sup>8</sup> Our patient who was in remission at the time of diagnosis of the ocular myeloma died after few months due to complication of myeloma. Moreover, to our knowledge. Ocular myeloma during remission period of multiple myeloma has not been demonstrated in literature so far.

Our case is unique because of dramatic presentation of ocular myeloma as seen both clinically and in the images during reemission period of treatment of multiple myeloma.

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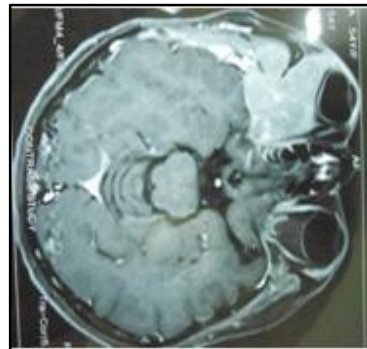
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## CASE REPORT

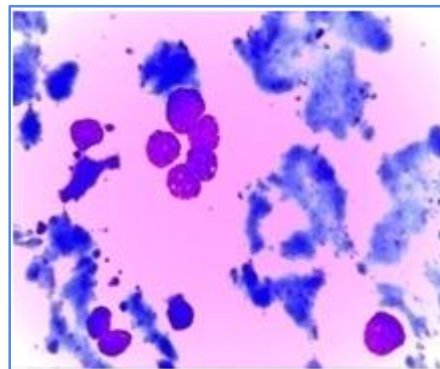
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**Fig. 1: Proptosis of the right eye**



**Fig. 2: MRI of orbit shows the mass compressing the right eye ball from behind causing proptosis**



**Fig. 3: Histopathological examination from the orbital lesion shows Plasma cells (40X)**

# CASE REPORT

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