

Purely Transorbital Endoscopic Resection of Gastrointestinal Stromal Tumor Metastasis Extending from Temporal Fossa to The Masticator Space



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Gastrointestinal stromal tumors (GISTs) are the most common malignant subepithelial lesions (SELs) of the gastrointestinal tract in the daily clinical setting. To the best of our knowledge, this is the first case purely transorbital endoscopic removal of a GIST metastasis from orbit and masticator space.



A 58-year-old woman presented with a history of right eyelid swelling and pain. She had a history of a prior stomach gastrointestinal stromal tumor (GIST) with a large metastasis to the frontotemporal lobe; prenchymal tumor removed but intraorbital and masticator part was left untouched for 18 months. On examination eye motility restrictions to lateral and superior with no relative afferent pupillary reflex and 4 mm of right-side proptosis were detected



On CT and MRI there is a heterogeneous contrasting solid mass lesion in size of 55x40 mm in the temporal bone squamous part on the right sphenoid greater wing, which reaches the masticator space, destroys the pterygoid plates that cause pressure from the posterolateral to the orbit and causes proptosis on the right. The right bulbus oculi is anterior to the interzygomatic line. It was pushed medially by the right lateral rectus muscle mass. The squamous portion of the right temporal bone and the right orbital lateral wall are destroyed.

Total tumor resection were achieved with purely Transorbital endoscopic approach. Patient discharged 1 day after

surgery. In postoperative 6 months eye movements are completely normal no sign of recurrence were detected.

Discussion

GIST is the most common primary mesenchymal tumor and is derived from the directional differentiation of mesenchymal cells in the gastrointestinal tract from the esophagus to the rectum orbital metastasis derived from GIST is rare. Few studies have reported orbital GIST metastasis. Akiyama et al. reported the case characteristics of magnetic resonance imaging and computed tomography scanning of GIST metastasis involving the optic nerve and superior orbit with no biopsy diagnosis from orbital tissue Li LF et al. demonstrated a case with GIST metastasis to the skull and orbit. Roelofs et al. presented a case of d bilateral orbital gastrointestinal stromal tumor



Figure 2 a. Superior eyelid incision b. Identification of orbital rim(OR) and tumor(T) c Early postoperative MRI d. Intraoperative navigation coronal axial sections showing tumor margins were reached by using transorbital route

which the metastas1s, only was second histopathologically confirmed case GIST ot metastasis to the orbit and the only case to develop bilateral orbital metastasis. At present, there is no standard treatment for a metastatic tumor of the orbit, which has a poor prognosis due to resistance to both chemotherapy and radiation

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In suitable cases transorbital approaches can be use to remove tumors extending from skull base to masticator space in a minimally invasive way.

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