Management of a Penetrating Sword Injury to the Orbit and Globe with Retained Metallic Fragments

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Introduction; Penetrating orbital trauma by large metallic foreign bodies represents a surgical emergency requiring a multidisciplinary approach. We present a case of a 21-year-old male who sustained a penetrating injury to the right temple and orbit via a sword, resulting in retained weapon fragments and an open globe injury.

Report; A 21-year-old male presented after an assault with a sharp object. Clinical examination revealed a metallic foreign body lodged in the right temple extending into the orbit, right cheek lacerations, and no light perception (NLP) vision in the right eye with an intraocular pressure of 42 mmHg. CT imaging confirmed two large metallic weapon fragments (totaling 12 cm) within the temporal scalp and orbit, a comminuted lateral orbital wall fracture, and a penetrating globe injury with significant volume loss. The patient was taken urgently to the operating room. Oral and Maxillofacial Surgery performed a multi-incisional approach to retrieve two fragments of a sword from the temporal region and lateral orbital rim. Subsequently, Ophthalmology performed a 360-degree peritomy, revealing a large posterior scleral laceration with uveal prolapse extending 20 mm posterior to the limbus. The medial rectus was disinserted to facilitate a primary repair using 8-0 Vicryl and 8-0 nylon sutures. Post-repair, a canthotomy, cantholysis, and temporary tarsorrhaphy were performed to protect the ocular surface.

Conclusion; This case highlights the complexity of managing high-energy penetrating orbital trauma. Despite successful surgical removal of large retained metallic fragments and primary globe closure, the visual prognosis remains guarded in cases of extensive posterior scleral involvement and NLP vision at presentation. Multidisciplinary coordination between OMFS and Ophthalmology is essential for stabilizing the orbit and preserving the integrity of the globe.