

Frontal Sinus Fistula Secondary to a Cranial Foreign Body

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INTRODUCTION

A 78-year-old man presented with unusual ocular symptoms requiring multidisciplinary corrective surgery. The case is presented for its uniqueness.

CASE REPORT

A 78-year-old man was seen on referral in ophthalmology for chronic drainage into his left eye. His local ophthalmologist was planning cataract surgery but was concerned about the risk of postoperative infection. On examination, the drainage was from a frontal sinus fistula through the upper lid secondary to a protruding stainless steel implant (Fig.1).

Significant past history was that he had fallen down a mountain 50 years ago while working in the field as a topographic surveyor in coastal Maine. He sustained a severe frontal skull fracture with exposed brain and was flown to the Walter Reed Hospital where

Figure 1. X-rays showing the extensive metal plate.



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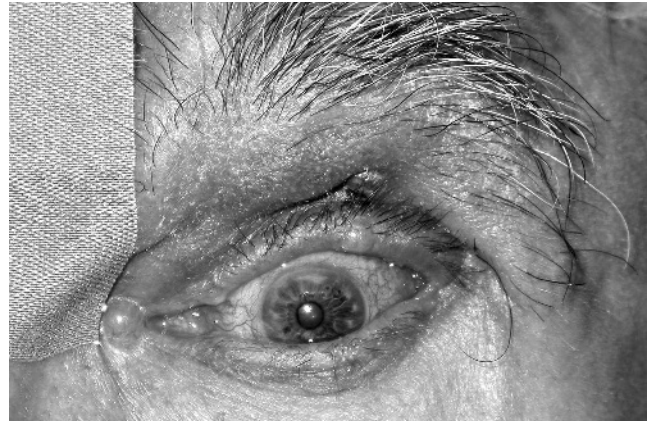
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Figure 2. Preoperative appearance with extrusion of the metal plate through the left upper lid and frontal erosion.



Figure 3. Postoperative appearance of left eye.



a large metallic plate was fashioned and secured over the frontal area with wiring of the orbital bones. Past history was otherwise noncontributory. X-rays revealed a large steel plate over the left frontal region (Fig. 2).

Consultation was obtained with the orthopedics department. Combined surgery was planned to trim the extruded hardware over the lid and close the fistula with skin flaps. The orthopedic surgeon used metal cutting shears, a pin cutter, and Midas Rex Legend tapered diamond cutting drill as well as circular diamond cutting saw to trim and then finish the metal plate and cut the wire attachment. He then removed some of the frontal bone to allow better soft tissue access.

The oculoplastic surgeon then took transposition flaps from both above and below the extrusion line and with undermining approximated the margins with both deep and superficial layered closure. A drain was placed at the temporal aspect of the wound and removed the next day.

One week postoperatively, the patient was doing much better and the drainage into the left eye resolved. The wounds were healing well without any evidence of erosion or infection (Fig. 3). Seen again 1 month later, he continued to do well and was scheduled for cataract surgery.

DISCUSSION

Several aspects of this case deserve brief comment. It is unusual for fistulas or infection to develop secondary to a foreign body 50 years after placement. Evaluation of the unusual drainage led to the correct diagnosis of a frontal sinus fistula associated with a foreign body.

Conventional wisdom suggests that the entire foreign body should be removed when there is an associated fistula or infection. However, a more conservative approach was chosen in this case. The duration of placement and the characteristics of the implant along with the ability to debride back to healthy tissue and cover the implant with layers of tissue supported this option. So far it has been successful.

The group practice at Ochsner fosters the type of multidisciplinary approach needed to manage challenging problems as described in this case report.