

TRISMUS AND RECURRENT EPISTAXIS: UNUSUAL CASE REPORT

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Abstract

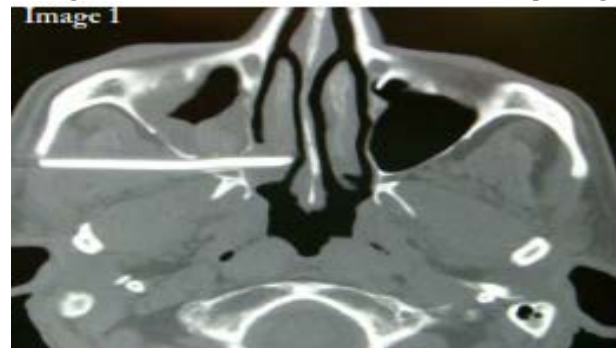
At the conclusion of this, the participants should be able to explain the clinical presentation of an infratemporal fossa (ITF) foreign body and discuss the various surgical approaches for removal. Head and neck foreign bodies have a variety of distinct clinical presentations. We present an unusual case of an ITF foreign body requiring operative removal and discuss surgical approaches to this space. Thus ITF foreign bodies may present a diagnostic and therapeutic challenge. The surgical approach to removal is dictated by the nature of the injury.

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CASE REPORT

A 64-year-old man presented with a laceration to his right cheek after he was smashed into a windowpane during a fight. Initial examination in the emergency revealed no other injuries except bruises over the arms and chest. Plain radiographs were taken of the PNS and Lateral view neck but no foreign body was appreciated and the laceration was closed primarily. After around 3-4 weeks he appreciated mid-right sided facial weakness and experienced salivary discharge from his wound while eating. Although both of these symptoms resolved after some time but he unfortunately developed trismus with a maximum interincisor opening of 2.0 cm (Image 1) associated with intermittent right-sided epistaxis that was exacerbated on eating. He was then referred to the dentists and a maxillofacial surgeon. A CT scan was done which revealed a 5 cm foreign body extending through the superior parotid gland just inferior to the zygomatic arch and passing through the posterior maxillary sinus ending up in the middle turbinate (Image 2). He then presented in our OPD for further evaluation after 6 months of injury. Patient was taken to the operating room and through a modified Blair approach two pieces of glass were removed from the parotid gland extending into the middle meatus of the nasal cavity. Nasal endoscopy was used to visualize the distal tip of the glass embedded in the middle turbinate. The largest was of 5 cm in length. Zygomatic branch of the facial nerve was found to be engulfed in the scar tissue overlaying the glass and had to be transected in order to remove the large glass fragment beneath and reapproximation of the two cut ends was done. Follow up at one week revealed a well-healed incision and improvement in his trismus with maximum interincisor

opening of 3 cm. Mild right mid-facial weakness was present. Patient was advised home exercises to improve temporomandibular joint range of motion. Subsequent follow up at 3 months revealed a full return of facial nerve function with greater than 4 cm maximal interincisor opening.



DISCUSSION

Foreign bodies of the Infratemporal fossa are uncommon and present as a challenge to the head and neck surgeon. Physical examination findings vary from patient to patient based on the means of entry but trismus is a common symptom. This patient was referred to several dentists with concern for temporomandibular joint dysfunction. Early identification and removal of foreign bodies in this space may result in better outcomes with reference to jaw opening.

Surgical access to the Infratemporal fossa is difficult. The anterior and posterior borders of the Infratemporal fossa include posterior surface of the maxilla and the mastoid and tympanic portions of the temporal bone respectively. Superiorly it is defined by the greater wing of the sphenoid bone and the squamous portion of the temporal bone while the inferior limit is defined by the angle of the mandible and superior extent of the posterior belly of the digastric muscle. The medial limit of the space is the pterygoid process of the sphenoid bone, the lateral limit is the inferior surface of the petrous portion of the temporal bone, and the lateral extent is further framed by the zygomatic arch and the ascending ramus of the mandible (1). Nature of the pathology will determine the most suitable approach to maximize the exposure and minimize the surgical morbidity. Surgical approaches to the Infratemporal fossa can be divided into anterior (transfacial, transmaxillary and transoral), lateral (transzygomatic and lateral infratemporal) and inferior (transmandibular and transcervical) (2, 3).

There are several approaches to the Infratemporal fossa that have been described in foreign body removal. Orr described removal of a displaced molar through an intraoral approach combined with the insertion of a needle behind the zygomatic arch to manipulate the tooth into the intraoral incision (4). There are reports of maxillary molars displaced into the Infratemporal fossa being removed utilizing a temporal approach and a hemicoronal approach (5, 6). In a case report by Lee et al. describing a nail gun injury in which a nail passed through the right superior sub labial sulcus and terminated in the Infratemporal fossa a preauricular approach was used to access this space. After disarticulation of the zygomatic arch and reflection of the temporalis muscle the head of the nail was visualized just lateral to the orbital wall. Ultimately the nail was removed along its original vector of entrance through the sublabial sulcus (7).

Removal of long, thin foreign bodies is best removed using the vector in which they are introduced to avoid unnecessary damage to adjacent tissues. The location and apparent course of the piece of glass in our case was suitable for a modified Blair approach. This was the safest and least morbid way to identify the large foreign body that traversed the plane of the facial nerve. This permitted minimal sacrifice of a small zygomatic branch of the facial nerve in a controlled

fashion. This can be done safely if the appropriate surgical approach and dissection have been carried out such that control of bleeding at the distal end of the foreign body can be readily achieved if needed upon the object's removal. In our case nasal endoscopy was utilized to visualize the distal tip of the glass within the nasal cavity and instruments were available for potential epistaxis control.

Preoperative imaging is essential in establishing a diagnosis and is always informative in surgical planning of any case. Given the intimate association with cranial nerves and major vascular structures computed tomography or magnetic resonance imaging should be used to define the trajectory of the foreign body and assess the extent of injury.

CONCLUSION

Foreign bodies of the infratemporal fossa are an uncommon clinical entity. Hence clinicians should always have a high index of suspicion for a foreign body when patients present with a history of trauma to the head and neck and present with persistent localizing symptoms, such as trismus. The decision of when to remove a foreign body of the head and neck and the optimal approach will depend upon the type of material, the location of the material and the patient's symptoms.

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