

TRAUMATIC IMPACTION OF WINDSHIELD: REPORT OF A RARE CASE OF GLASS IN FRONTAL SINUS

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Abstract: Presence of foreign body in the paranasal sinus is not a common finding. Many cases have been reported so far with foreign body like dental amalgam, chop sticks, gutta percha pellets, tooth, glue and even bullets. However presence of foreign body in the frontal sinus as a result of penetrating injury is uncommon. Most of them have been the result of trauma after vehicle accidents, gunshot injury and assault. There are two treatment options, endoscopic and open surgical approach for removal of foreign body. We present an interesting case of the transfacial penetrating injuries of frontal sinus caused by windshield glass impaction.

Keywords: dental amalgam, chop sticks, tooth, penetrating injury, vehicle accidents.

1. INTRODUCTION

Frontal sinus foreign body is rare and mostly traumatic in nature. Lead pencil (1), plastic tube(2), button, wooden stick, sewing needle, knife have been reported. Delayed identification may cause mucocoele, forehead swelling and intracranial abscess due to the thin posterior wall of frontal sinus.

To avoid intra cranial complication, mucocoele or pyocoele, a prompt and early treatment is necessary.

2. CASE REPORT

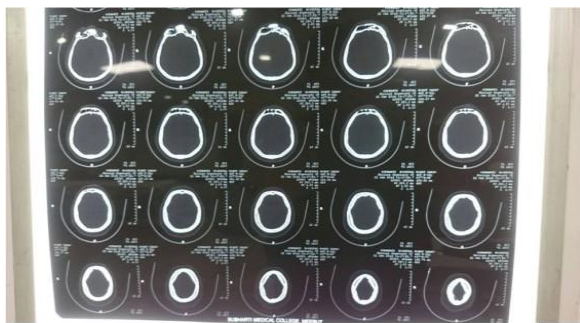
A 22 year old male with alleged history of road traffic accident was brought to the casualty with a foreign body in frontal sinus with suspected fracture femur and dislocation of the hip. Patient was under the influence of alcohol. Examination showed windshield glass penetrating the frontal sinus. There was a small laceration over left eye lid. Ophthalmologist's opinion was sought. Patient underwent 3D-CT face and NCCT head. On the basis of CT examination it was found that the foreign body was present inside the frontal sinus and inner table was intact. It was decided to remove the foreign body under general anesthesia. Under general anesthesia the glass foreign body was removed, along with frontal sinus mucosa. Packing of frontal sinus was done with absorbent gelatin and bone wax. Bleeding was controlled. The wound was irrigated thoroughly. The lacerated wound was closed in layers. Post operative period was uneventful.

3. DISCUSSION

The natural history of foreign bodies in the paranasal sinuses is only anecdotal and is unknown (3). Frontal (4, 5, 6), Ethmoid (7, 8, 9, 10) and sphenoid sinus(11) have equal involvement. All of whose involvement is rare.

Foreign body in the frontal sinus may present as an acute phenomenon or may remain silent for years. Some patients may present with complaint of frontal headache, diplopia, some patient can present with purulent discharge also. Potential complications related to foreign body include mucocoele, pyomucocoele.

Mladina believes that metal foreign body should always be removed from paranasal sinuses in order to prevent the possibility of development of chronic irritation or even malignancy. They must be removed surgically even when they are asymptomatic(12). In our case the foreign body was a glass piece and so we decided to remove the foreign body immediately. The extent of penetrating injury is usually determined by physical examination and routine radiography. In our case a 3D-CT face and NCCT head was done to help isolate the glass piece. MRI can also be used for detection of foreign bodies. Open approach are better suited in case of large foreign body or impacted foreign body. Recent technical advances have made possible the use of endoscopic approach for the removal of foreign body. This is useful for detecting and removing relatively small foreign bodies lodged in the paranasal sinuses. Advantages of endoscopic approach are non-invasive, decreased risk of tooth injury, ability to fully visualize the sinus. Despite these advantages open approach is better suited for removal of large foreign bodies. However, depending on the nature and location of the foreign body, combined approach may be necessary for removal of all the fragments. In our case we chose the open approach because of the large size of the glass piece.



Preoperative CT



Preoperative CT



Preoperative Image



Extracted Glass Piece

4. CONCLUSION

Sinus foreign bodies are rare findings. When they are discovered however their removal is indicated, even if asymptomatic. Often Neuro Surgeons are called upon to remove them. Since foreign bodies in paranasal sinus vary in size and location, surgeons must be familiar with the different approaches for removing them.

This paper is presented because of the unique nature of entry of foreign body through the frontal sinus.

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