Case Report

FOREIGN BODY IMPACTED IN THE SUBMASSETRIC REGION-A CASE REPORT

ABSTRACT

Foreign body is an object lying partially or completely within the body that originated from the external environment. Foreign bodies are generally encountered in the orofacial region following trauma or iatrogenic procedures. If untreated can lead to serious complications like pain, swelling and infection. Here is a case report of retained foreign body in the orofacial region of 32 year old male patient. This paper highlights the problems associated in diagnosis, localising and managing unlikely foreign bodies at unusual facial sites.

KEY WORDS: foreign bodies, cellulites, swelling, crepitation.

INTRODUCTION

Foreign bodies are often found in facial wounds but rarely reported in the literature.[1] Some authors believe that the head and neck region is most frequently affected by trauma and facial involvement is very common due to the exposure of face.[2] The foreign bodies encountered in the orofacial region are commonly associated with morbidity and mortality. The foreign bodies usually are the result of trauma or iatrogenic procedures. Most commonly found foreign bodies in the orofacial region are metallic objects, restorative materials, obturation materials ,wooden pieces , glass pieces, broken instruments, needles,etc.[3] These foreign bodies may be challenging to surgeon due to their size ,accessibilty,proximity to the vital structures. Diagnoses of foreign bodies are often made accidentally on radiographic examination or may be due the symptoms associated with it. Their identification and removal from the tissue is often necessary .Prompt diagnosis and surgical removal of such foreign bodies will greatly minimize the associated complications which may include; allergic reactions, cellulitis, abscess,necrotizing fasciitis and osteomyelitis.

CASE REPORT

A 32 year old male reported to the department of oral and maxillofacial surgery Krishnadevaraya College of dental science and hospital Bangalore with a chief complaint of pain and swelling in the lower left back region of the face since 8 days. Patient gave history of trauma 14 years back in the left lower posterior region of the face following which he fell on a glass bottle in the same region. He was taken to a nearby hospital where he got the primary treatment for the same. On inspection there was a diffuse swelling in the left posterior mandibular ramus region. There was a linear scar measuring approximately 2-3 cm in the same region since 10 years .On palpation the swelling was tender and firm in consistency, with crepitation.

A plain radiograph (PA mandible Fig no 5) was requested and it revealed a small radio opaque mass on the lower left ramus region measuring about 2-3 mm. For further detailed picture patient was advised to get a CT-scan with 3D reconstruction(Fig no 6) which revealed two well defined foreign objects in the same region. Patient was not aware of the foreign body in the maxillofacial region.

Patient was admitted to the ward for surgical removal of the foreign bodies under general anaesthesia. Standard skin prepation was done , a left mandibular vestibular incision was given in the 3rd molar region extending upto the anterior border of the ramus. Full thickness mucoperiosteal flap was reflected and the foreign bodies were located in the submassetric region, deep to the masseter muscle. Masseter muscle was reflected from the later surface of ramus.The two glass pieces were successfully retrieved through intra-oral approach. Thorough debridement Patient had an Uneventful recovery and was discharged after 24 hour postoperatively.

DISCUSSION

Incorporation of the Foreign materials in the body can be deliberate or accidental.The diagnosis and early detection of foreign bodies are usually based on the patient's history, clinical examination and the various radiological imaging methods such as the plain radiographs, computed tomography, magnetic resonance imaging and ultrasound.[4]

Initial evaluation of patients with skin puncture wounds should be completed with a high suspicion for a foreign body. Patients also present for evaluation several months or even years after the initial injury, and consequently, clinical evaluation may fail to elicit a history of antecedent skin puncture.

Surgical removal of FB is important because it may serve as unrecognized foci of infection. Superficial foreign bodies are usually easy to remove if seen. However, penetrating foreign bodies are more difficult to remove. The accurate localization is essential, in particular when the foreign body is in a critical location, it may be located in an air-filled cavity such as the maxillary sinus, in soft tissue such as the tongue or between bone and muscle.

Various imaging modalities like conventional plain radiographs, CT, MRI & ultrasonography are used to detect foreign bodies. Conventional plain radiography is usually the preferred imaging method for detecting foreign bodies. Conventional plain radiographs can determine a foreign body's position and help radiologists to determine whether the object is in a critical location or not. Although it is used frequently, additional imaging modalities may be needed for exact location.[5]

CT is a standard method for imaging and localizing foreign bodies because their shape and size are accurately reproduced. It also enables the exact localization of a foreign body in the patient's body as a prerequisite to being removed surgically.[6]

However, metallic artefacts are an important source of error when detecting foreign bodies with CT imaging. If a foreign body's composition is initially unknown, MRI cannot be used

as the first diagnostic tool, because artefacts related to the foreign body's composition hinder the clear demonstration of iron,glass, graphite and even plastic.[7]

Ultrasonography might be useful for locating superficial foreign bodies;however, it might be unsuitable for those located deep and inside the air-filled cavities.[8]

CT can be used to detect deeply seated foreign bodies because it reproduces accurate location ,position ,size,and shape of them.[5] Therefore, some authors have suggested that CT is the standard imaging technique for observing foreign bodies.[6] Thus of all the imaging modalities in disposal to a craniofacial surgeon CT remains the less expensive and more readily available and faster to localize a foreign bodies

Superficial located foreign body in the craniofacial region can be removed under local anaesthesia. However deeper FB is preferentially removed under GA. Surgical access to the FB can be achieved through the existing skin laceration or in deeply placed FB can be accessed by intra-oral or extraoral incisions.

Selection of the antibiotics as prophylaxis for the surgical retrieval will depend on its location and communications with oral cavity, nasal cavity and proximity to the meninges. Foreign bodies in orbit generally have higher morbidity than other sites, requiring more aggressive medical management.

CONCLUSION

In conclusion the management of FB will have to consider factors like

1. Accurate localization

Radiopaque foreign bodies are detected with all the visualization techniques. CT is the best imaging technique for visualization of foreign bodies in air among CT, ultrasonography and conventional plain radiography. Most foreign bodies with low radiopacity become less visible or almost invisible in muscle tissue and between bone and muscle tissue with CT or conventional plain radiography. ultrasonography visualizes foreign bodies with low radiopacity better, relatively, than CT does.[9]

2. Type & duration of the retention of foreign body

3. Surgical access

4. Wound management.

Fig. 1: frontal view showing mild swelling on lower face region

Fig. 2: profile view showing a scar on left the left lower face region

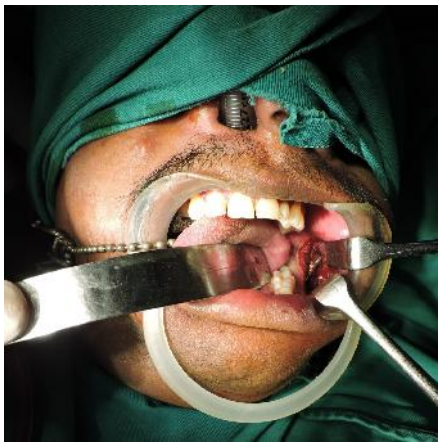

Fig. 3: Glass pieces were located in the submassetric region

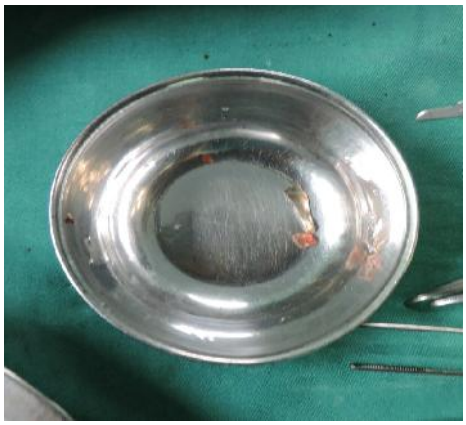

Fig. 4: two glass pieces were retrieved

Fig. 5: PA mandible v5ew showing a radiopaque

Mass on left side of ramus region

Fig. 6: 3D CT scan showing two foreign bodies in the left submassetric region

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