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Case report

Unobserved foreign body: A clinical dilemma

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ABSTRACT

This report describes an unusual case of a missed foreign body (bamboo stick) that was subsequently discovered in the left infratemporal space. The clinical symptoms were such that the possibility of a foreign body sitting there was least anticipated. So, taking into consideration the diagnostic delay and long-standing mistreatment endured by the patient before reporting to us, and with conventional images proving unhelpful, it was decided to have the case thoroughly investigated using sophisticated imaging techniques to not only circumvent possible complications associated with surgery but also thwart the possibility of further mismanagement.

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1. Introduction

Foreign bodies in the oral and maxillofacial region, though rare, necessitate precise examination and treatment in clinical practice. Approximately, 1/3 of all foreign bodies initially go unnoticed [1]. The etiologies of foreign bodies are several as described in the literature [2,3]. In principle, the mechanism and path of entry and exit of a foreign body and management differ with respect to body part. Fortunately, imaging breakthroughs have recently resulted in more successful treatment outcomes. Although they could potentially interfere with healing if not detected or removed from soft tissues, it is not so in every case [4,5]. Foreign bodies resulting from impalement injuries to the oral and maxillofacial region produce symptoms usually similar to those in routine trauma. However, management is essentially multi-disciplinary and therefore optimum [1,6,7].

We describe an unusual case of a missed foreign body (bamboo splinter-induced retromolar infection) that was subsequently discovered in the left infratemporal space. The clinical symptoms were such that the possibility of a foreign body sitting there was least anticipated. So, in view of the diagnostic delay and long-standing mistreatment endured by the patient before reporting to us, and

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with conventional images proving unhelpful, it was decided to have the case thoroughly investigated, using sophisticated imaging techniques to not only circumvent possible complications associated with surgery but also thwart further possible mismanagement.

2. Case report

A 36-year-old male reported with a painful left-sided pterygomandibular swelling since two months following a road-traffic accident. He had a diffuse swelling with a 4 cm scar in the ipsilateral mental region of left lower 2/3 of face; trismus was moderate (Fig. 1). Intraorally, a 1×2 cm, well-defined lesion (possibly a traumatic ulcer) was visible in the left third molar space. The mucosa was inflamed, boggy and had a discharging sinus (Fig. 2). The picture suggested a chronic granulomatous inflammatory reaction involving left pterygomandibular region.

Routine investigation was normal; ultrasonography revealed mild increased thickness of the left masseter and deeper structures in the left masticator space. Plain computed tomography (CT) revealed a 2×0.5 cm linear hyper-dense structure (160–170 HU) situated in the left infratemporal fossa within the lateral pterygoid close to the temporalis insertion, and was oriented superolaterally from the retromolar region, 6 mm deep to the oral mucosa (Fig. 3). Coronal T2 demonstrated better intrinsic resolution of the muscles and a linear hypo-intense structure within the lateral pterygoid. This suggested the presence of a foreign body in the left masticator space (Fig. 4).

Treatment included excision of the sinus tract and submucosal dissection medial to the coronoid and with blunt dissection; releasing all fibrous adhesions, a $2.5 \times 1\,\mathrm{cm}$ bamboo splinter was visualized and removed (Figs. 5 and 6). Healing was uneventful.

^{*} AsianAOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

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Fig. 1. Clinical picture depicting the presence of a very diffuse left-sided lower facial swelling with a healed scar in the lower left melolabial region.

3. Discussion

It is known that the early detection of wooden foreign bodies in the head and neck could potentially avoid complications [8]. Foreign bodies over time produce non-specific inflammation or a painful soft tissue mass/pseudotumor that may clinically mimic a malignancy or infection [17]. Therefore, a systematic case evaluation, focusing mainly on the imaging modalities employed, analyzing previous course of events, especially past failed attempts at retrieval or surgical mutilation, and treatment responses and/or alterations thereof, would be most logically necessary. Obviously, old (wooden) foreign bodies would not be easy to find, especially when embedded deep within oro/maxillofacial tissues, but the continued presence of signs and symptoms related to function may provide clues to the possible existence of a foreign body. It may also be assumed that, in such situations, minor trauma endured by the individual may have gone unnoticed.



Fig. 2. Intraoral photograph revealing a lesion mimicking an infected traumatic ulcer possibly induced by the left third molars (extracted). A discharging sinus is also seen.

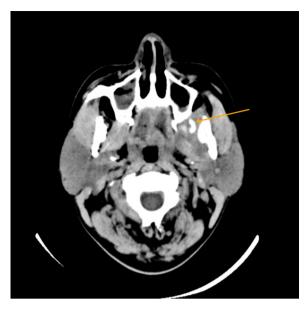


Fig. 3. Axial plain CT scan at the level of the pterygoid muscles. The left arrow depicts a hyper-dense foreign body within the edematous pterygoid muscles in the left infratemporal fossa. The right arrow depicts normal right pterygoid muscles.

Using "foreign body in infratemporal fossa" on pubmed and springerlink, we came by 40 and 85 reports, respectively; however, only 34 (32 from pubmed/2 from springerlink) were relevant. Eleven reports described management techniques and complications, but not the type of foreign body that was identified and removed. Of the remaining, nine discussed the accidental displacement of maxillary third molars into the infratemporal fossa; various strategies in retrieving them and the resultant problems were also described. Twelve reports discussed impalement injuries and their management and two reports pertained to impact injuries, stressing the importance that initial intervention could fail using traditional approaches (Table 1). However, all reports conclusively agree that non-specific signs and symptoms

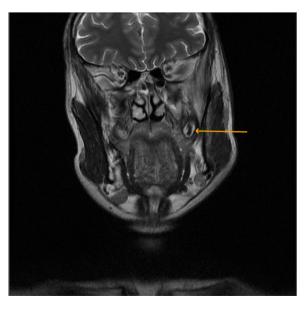


Fig. 4. Coronal T2 MRI: The left arrow depicts a linear hypo-intense structure (foreign body) within the left lateral pterygoid with surrounding edema. Note the normal right lateral pterygoid muscle. Incidental bilateral maxillary sinusitis is also noted. Also, note the edema at the temporalis insertion and mild bulky appearance of the left masseter as compared to right. Minimal fluid around the foreign body is noted as well.

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