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Migrating foreign body: a new cause of trismus

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Abstract
A unique case of delayed trismus secondary to an infratemporal foreign body is presented. The pathophysiology and treatment options are discussed.

Key words: Foreign body; Neck; Trismus

Case report

A 22-year-old male computer consultant presented to the ENT clinic with a three-month history of trismus. This was associated with an increase in pain over the right angle of his mandible which had been present for two years and became progressively worse over the preceding six month period. He had had an uncomplicated extraction of all four wisdom teeth under general anaesthetic two years previously. Of importance, he had fallen through a window aged six and sustained a laceration to the right side of his neck. He attended a casualty department at that time and had the laceration sutured. His parents had been told that a piece of glass was lodged in his neck but would not be removed as it was unlikely to cause problems.

On examination, there was a small scar 3 cm below the inferior margin of the right side of his mandible consistent with the previous trauma. He had significant trismus, unable to extend his anterior gape beyond 1.75 cm. Apart from some tenderness over the right posterior alveolar region, the rest of the examination was normal. Plain X-rays were clear, however a foreign body was clearly shown on orthopantomogram (Figure 1). A CT scan of the area (Figure 2), confirmed the presence of a 2 cm long radiopaque foreign body in the right infratemporal fossa in the region of the pterygoid muscles.

Under general anaesthetic, via an intraoral incision, the glass foreign body was removed from within the pterygoid muscles (Figure 3). The mouth was stretched open post-operatively. He made an uneventful recovery and using increasing numbers of wooden spatulae over the following five days, his trismus disappeared, achieving a normal anterior gape.

Discussion

We present a patient with restricted mouth opening secondary to a penetrating foreign body injury. The glass foreign body appears to have migrated cranially over a period of 16 years following the initial trauma, lodging in the pterygoid musculature and presenting with trismus.

Normal mouth opening, as measured by the anterior gape between upper and lower incisors, including overbite, is from 35–50 mm (Luyk and Steinberg, 1990). Trismus, from the Greek word 'Trismos', meaning a grinding, refers to the condition where this opening is restricted. Patients

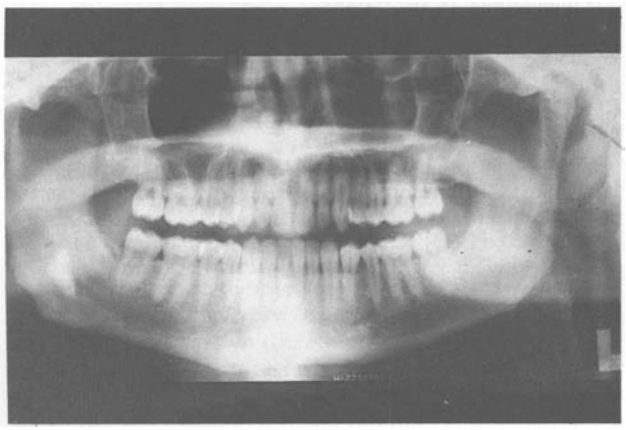

FIG. 1
Orthopantogram showing a foreign body in the right posterior alveolar region.

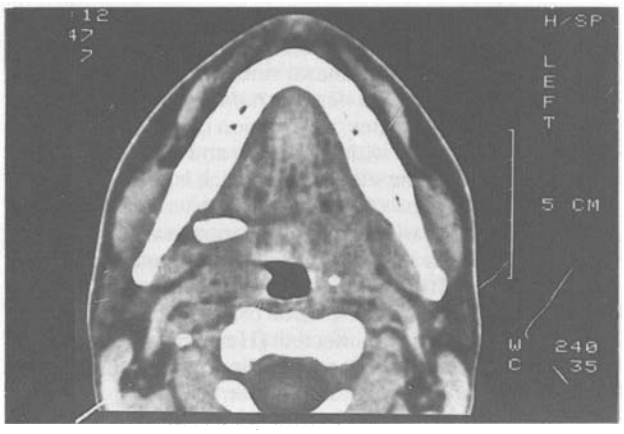

FIG. 2
CT scan showing a 2 cm long radiopaque foreign body in the right infratemporal fossa in the region of the pterygoid muscle.

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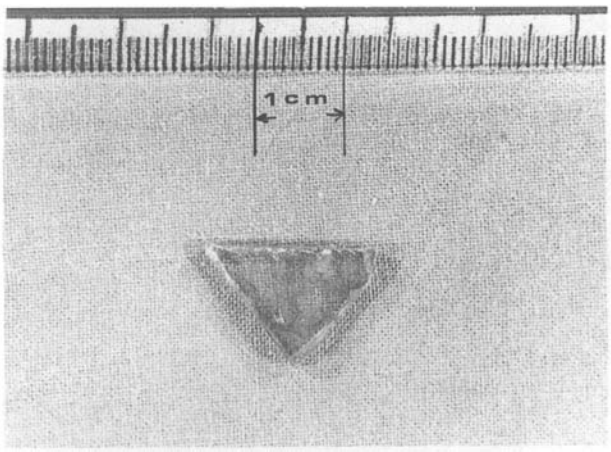

FIG. 3
The glass foreign body after removal.

present in many ways including difficulty with speech, eating or pain, many attending their dentist initially.

Penetrating foreign body injuries in the head and neck region are uncommon. They are likely to be of metal, glass or stone as they are usually associated with assaults or road traffic accidents. Complications arising from these foreign bodies almost always arise in the early post-injury period (Lee, 1992), initially due to their mass effect and later because of infection. In this case the onset of symptoms and signs was 16 years after the initial penetrating injury. Although infratemporal fossa foreign bodies causing trismus have been reported previously (English and Hemenway, 1968; Maisels and Priestland, 1973; Malhotra *et al.*, 1971), such a late presentation after the original injury has not been described. From a review of the literature it appears that foreign bodies lodging in the infratemporal area are usually associated with more extensive maxillofacial trauma.

Apart from the 16-year delay in presentation, the other unusual feature in our patient, was the apparent migration of the foreign body from the neck wound to the pterygoid region. Migrating foreign bodies in the head and neck causing delayed complications have been reported previously; Nicol *et al.* (1992), described the downward migration of a bullet to the supralaryngeal area causing life-threatening airway occlusion. Lannigan *et al.* (1988), described a case of spontaneous migration of a fishbone from the tongue base to the subcutaneous tissues of the neck and Gertner *et al.* (1991), documented a similar case in which a piece of straw migrated laterally from the floor of mouth. Lannigan *et al.* (1988), suggested that the arrangement of the intrinsic muscles of the tongue and its great mobility propelled the foreign body. This may have been the cause of the migration we observed but is unlikely because of the large size of the foreign body as opposed to Lannigan's fish bone. A relative movement of the piece of glass secondary to the patient's facial growth over the intervening years may in part explain this migration.

This case underlines the unpredictable nature of migration in this area, even with large foreign bodies. Because of this and the proximity of many vital structures, it is our opinion that foreign bodies in the head and neck region, where possible, should be removed. Exploration of the neck wound at this patient's initial presentation and removal of the glass fragment would undoubtedly have prevented his delayed presentation with trismus.

Conclusion

A case of trismus secondary to a foreign body is described. Such a delayed presentation of trismus has not been described before. Nor has the migration of foreign body to produce this clinical picture. This diagnosis should be considered in anyone with unusual symptoms such as trismus without an obvious cause and a history of possible foreign body injury.

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