Foreign Body Wharton's Duct

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Abstract A case of fingernail sliver lodged in the Wharton's duct is reported as the incidence of foreign body in duct is scarcely reported due to small puncta. Foreign body was removed under local anesthesia by opening the Wharton's duct as a day care procedure.

Keywords Foreign body · Wharton's duct · Submandibular gland

Introduction

The occurrence of submandibular sialoadenitis due to calculi in Wharton's duct is quite common but incidence of lodging of foreign body through the puncta is scars, very few cases have been reported in literature. The reason attributed by Riccio et al. [1].

1. Normally there is almost continuous egress flow from the duct to oral cavity.
2. The punctal anatomy and physiology of the Wharton's duct orifice is such that the intra oral termination of the duct have little support from the papilla of the caruncula sublingual and can flap and twist in all direction.
3. The caliber of the duct at puncta is quite small.

Most of the foreign bodies reported are vegetative in origin.

Case Report

A 26 years young male reported in out patient department of Indian Institute of Ear Diseases with complaints of pain and swelling left side submandibular region which was increasing on eating. Patient was having a distinct history of injection of nail splinter on his usual habit of nail bite. The occlusion view of the X-ray was available with the patient, which was inconclusive, on examination there was distinct swelling of left submandibular region. On bimanual palpation the submandibular salivary gland was enlarged, palpable, tender Wharton's duct was also tender, congested including puncta, no calculi, foreign body or fibrosis leading to occlusion of canal could be visualized, but there was definite sensation of thickening of the Wharton's duct. On squeezing the duct pus came out from the puncta (Figs. 1 and 2).

The duct was explored under local anesthesia and a glistening semi transparent malleable 4.00 mm length and 1.00 mm thick piece of foreign body was retrieved which was sent for biopsy to pathology department, histopathological report confirmed it as a nail piece (Fig. 3).

Discussion

The ingress of foreign body through the puncta is rare but more common than Stenson's duct. Prett et al. [2] reported that Wharton's duct, being located in the floor of the mouth under the tongue, tended to have material carried down into the puncta by the force of gravity. If the foreign body is radiolucent its detection may be further difficult as in the present case.

Foreign body in the Wharton's duct is usually lodged near the puncta and with time sialoadenitis and calculi

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Fig. 1 Lateral view of face depicting swelling submandibular region

Fig. 2 Intra oral view depicting congested puncta and Wharton's duct

Fig. 3 Section shows dead squamous cells lining with dense keratin plate

formation results which presents as tender swelling in the submandibular region, becomes more distinct and painful during deglutition. In acute cases signs of toxemia may be associated. Literature reports cases of associated deep neck abscess and para pharyngeal abscess requiring abscess drainage followed by excision of submandibular salivary gland and its duct [3].

The vegetative foreign bodies do not decompose in the Wharton's duct because salivary gland secretion can not dissolve the cellulose and lysozyme which is antibacterial,

restricts decomposition [4] of vegetative foreign body by bacteria.

From the literature other foreign bodies reported are broom, blades of grass, splinters of wood, fish bone, paper pin, tooth brush bristle, hairs, spikes of wheat, straw thorn and bird feathers etc., [5–7]. The foreign bodies may lead to calculi formation which has been also reported by others [2, 4] hence the calculi may be taken for histopath examination in all cases to know etiology of calculi formation in Wharton's duct.

Conclusion

If the patient reports early as in authors case with distinct history an attempt should be made to remove the foreign body from the Wharton's duct and after removal either leaving the duct wide open or marsupialisation should be done. Abe et al. [8] in 1990 has suggested dilatation of puncta, catheterization and leverage resulting in spontaneous elimination of foreign body. Now with the advancement of sialoendoscope intraluminary removal of foreign body is the future. But if the foreign body is embedded for long duration resulting in chronic infection, enlargement and fibrosis of the salivary gland and duct than via the cervical incision, excision of the submandibular salivary gland along with Wharton's duct should be performed for permanent relief and to prevent future complications.

References

1. Riccio FJ, Scavo VJ (1967) Unusual foreign body as etiology of sialadenitis. *Arch Otolaryngol* 86:210–211
2. Pratt LW (1968) Foreign body of the Wharton's duct with calculus formation. *Ann Otol Rhinol Laryngol* 77:88–93
3. Danforth B, Brown AK (1963) A foreign body in etiology of pharyngo-maxillary abscess. *Laryngoscope* 73:1485–1492
4. Chowdhary A, Kalsotra P, Parihar SS, Bhagat DR, Ali N (2005) A Rashid foreign body in the Wharton's duct. *Jammu Kashmir Science* 7(2):61–62
5. Ahad AA (1977) Foreign body in the Wharton's duct. *Indian J Laryngol Otol* 29:138–139
6. Kalsotra PK, Thakar A, Kumar R (1995) Foreign body in the Wharton's duct. *Indian J Laryngol Otol Head Neck Surg* 47: 297–298
7. Wolfowitz BL (1972) Foreign body in the submandibular gland. *J Laryngol Otol* 86:861–862
8. Abe K, Higuchi T, Kubo S, Oka M (1990) Submandibular sialadenitis due to foreign body. *Br J Oral Maxillofac Surg* 28:50–52