



CASE REPORT

Asymptomatic foreign body spontaneously discharged from Wharton's duct: a case report

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Abstract

Some situations can lead to obstruction of Wharton's duct. Obstructions are usually due to endogenous causes, such as calculi, fibromucinous plugs, stenosis, and malformations of the duct system; however, in rare situations, obstructions can also have exogenous causes, such as foreign bodies. The tortuous anatomy of Wharton's duct hinders the retrograde migration of straight-shaped foreign bodies, as well as makes their spontaneous discharge virtually impossible. Here, we report the case of a 47-year-old woman with an asymptomatic foreign body in Wharton's duct that was spontaneously discharged.

Keywords: foreign bodies; salivary ducts; submandibular gland.

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Introduction

The submandibular gland is located inferior to the mandible body, and its contents drain through Wharton's duct to the floor of mouth¹. Some situations can lead to obstruction of Wharton's duct. Obstructions are usually due to endogenous causes, such as calculi, fibromucinous plugs, stenosis, and malformations of the ductal system².

However, obstructions can also be due to exogenous causes, such as foreign bodies. These situations are quite rare because physiological and anatomical barriers such as a constant flow of saliva and the papillary ostium, the mobile distal end and the short horizontal extension of Wharton's duct act as a defense against foreign bodies².

Here, we report the case of a 47-year-old woman with an asymptomatic foreign body in Wharton's duct that was spontaneously discharged.

Ethical aspects

This study was conducted at the Instituto de Cirurgia de Cabeça e Pescoço private clinic, which is not linked to a Research Ethics Committee. The study was evaluated by the clinic's internal protocol.

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Case report

A 47-year-old woman with no significant medical history had the unusual habit of chewing staples in the office while working. One day, while chewing a staple, she reports that she stopped feeling it in her mouth, as well as not having swallowed it or feeling pain.

In the three weeks following the episode, the patient sought care from two physicians, including an otolaryngologist, who treated the case as psychogenic and did not carry out further investigation. Only when she sought dental care (oral and maxillofacial surgeon), some investigation was performed and a panoramic X-ray of the mandible was requested.

The panoramic dental X-ray (Figure 1) revealed that the staple was stretched in the path of left Wharton's duct. The oral and maxillofacial surgeon tried to approach the staple orally in his outpatient clinic, but his attempt was not successful. Thus, the patient was referred to evaluation of head and neck surgery.

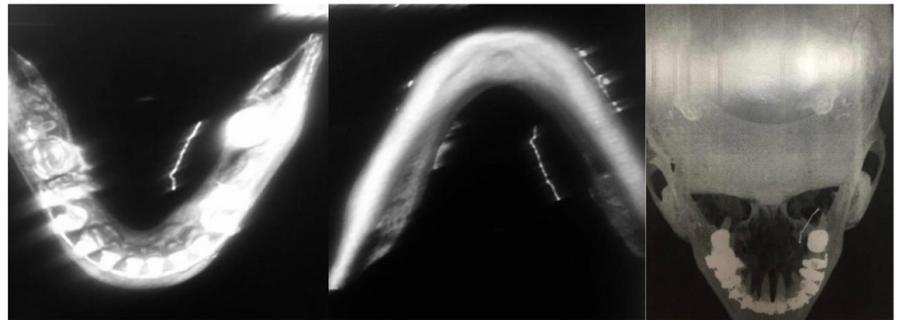


Figure 1. Panoramic X-ray of the mandible showing the position of the staple.

The head and neck surgeon requested a computed tomography (CT) scan to assess the possibility of surgical intervention. The CT scan (Figure 2) revealed that the staple was in a posterior position and already in the submandibular gland. Sialendoscopy was the approach chosen.

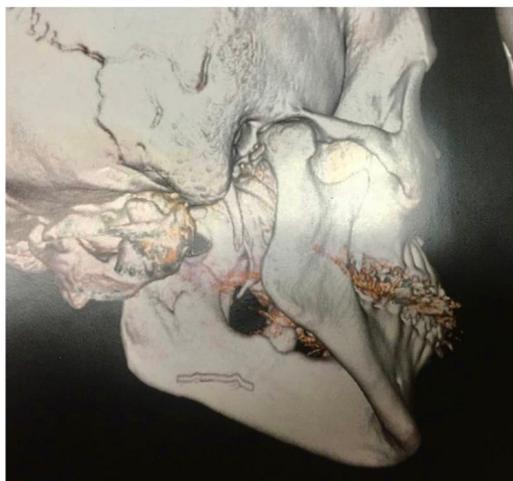


Figure 2. CT scan showing the position of the staple.

The patient was referred to a qualified professional to undergo sialendoscopy; however, while waiting for the bureaucratic procedures of her health insurance, the staple was spontaneously discharged (Figure 3).



Figure 3. Staple after being spontaneously discharged from Wharton's duct.

Discussion

Foreign bodies in Wharton's duct are usually located close to the papillary ostium and tend to cause sialoadenitis and calculus formation over time, which present as painful swelling of the submandibular region³. However, although the presence of these foreign bodies can progress to acute obstruction and infection, it can also course asymptotically for years before obstruction occurs².

X-ray diagnosis is often ineffective unless the foreign body is metallic (as in this case) or has calcified into a radiopaque stone³. Nevertheless, there is no gold standard diagnostic method for foreign bodies in this location, and X-ray, CT scan, magnetic resonance imaging (MRI), US, sialography, and sialendoscopy can be used³.

The tortuous anatomy of Wharton's duct hinders not only the retrograde migration of straight-shaped foreign bodies (such as a stretched office staple), but also approaching it via sialendoscopy and outpatient procedures, and makes their spontaneous discharge virtually impossible⁴.

Although virtually impossible, spontaneous discharge has previously been reported in the literature^{2,5}. Despite this, some intervention is required in almost all cases. Historically, the treatment of choice was sialoadenectomy or duct excision; however, currently, sialendoscopy is an option to be considered².

A literature review² analyzed cases of foreign body in Wharton's duct based on content, diagnostic investigation, and intervention from 1962 to 2019 (Table 1), and showed that almost all foreign bodies were more malleable than a stretched staple and that spontaneous discharge is rare.

Table 1. Literature review carried out by Dar et al.².

Case	Type of foreign body	Investigation	Intervention
Walker (1962) ⁶	Nail strip	X-ray	Duct excision
Riccio et al. (1967) ⁷	Grass leaf	Probing and X-ray	Sialoadenectomy
Brian (1972) ⁸	Grass leaf	Sialography	Sialoadenectomy
Modlin (1975) ⁹	Mail strip	X-ray	Duct excision
Watkins (1982) ¹⁰	Grass leaf	X-ray	Sialoadenectomy
Tov et al. (1988) ¹¹	Sunflower seed fiber	X-ray and fistulogram	Sialoadenectomy
Abe et al. (1990) ¹²	Fish bone	X-ray and sialography	Sialoadenectomy
Marchal et al. (2001) ¹³	Plant fibers	Sialography and sialendoscopy	Sialoadenectomy
McLoughlin & Dornan (2002) ¹⁴	Bird feather	Clinical examination	Spontaneous discharge
Ouellette et al. (2003) ¹⁵	Splinters	X-ray	Probing
Chowdhary et al. (2005) ¹⁶	Wood splinter	X-ray	Sialoadenectomy
Bhaves (2005) ¹⁷	Thorn	X-ray	Duct excision
Ardekian et al. (2009) ¹⁸	Hair	Sialography and US	Sialendoscopy
Taneja & Taneja (2011) ³	Mail strip	X-ray	Duct excision
Su et al. (2012) ¹⁹	Fish bone	X-ray and US	Sialendoscopy
Sahan et al. (2013) ²⁰	Seed	US and MRI	Sialoadenectomy
Xie et al. (2014) ²¹	Facial hair	Clinical examination	Duct excision
Derin et al. (2015) ²²	Fish bone	US	Duct excision
Ozturk et al. (2016) ²³	Wood splinter	US, CT scan and MRI	Sialoadenectomy
Li et al. (2018) ⁴	Metallic thread	X-ray and CT scan	Sialoadenectomy
Tabatabaee et al. (2019) ²⁴	Fish bone	X-ray	Milking

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