Unusual case of a projecting intraoral giant sialolith

Balakrishna N. Shetty · Pritam Sharma

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Abstract Sialolithiasis is the most common disease of the salivary glands. This report describes the case of a patient who had an unusually large submandibular gland ductal sialolith that had protruded out into the oral cavity.

Keywords Sialolithiasis · Submandibular duct · Sialadenitis

Introduction

Ductal sialolithiasis is a common cause of salivary gland obstruction. It can be complete or partial and may show recurrence. Diagnosis is not a difficulty; it leads to recurrent painful swelling of the involved gland during meals and is sometimes associated with frank infectious sialadenitis. We are reporting a case of sialolithiasis presenting as acute sialadenitis with spontaneous partial extrusion into the oral cavity.

Case report

A 50-year-old man presented with a firm painful swelling in the left submandibular region (Fig. 1). He gave a 1 month history of intermittent left submandibular pain with a history of meal time pain and swelling in the region. He had severe pain since the last 4 days. He presented to our outpatient department with a protruding calculi from the floor of the mouth on the left side (Fig. 2). The calculus was removed in the OPD by gentle extraction, following which he had pain relief. The calculus measured 27×8 mm (Fig. 3). X-ray occlusal view of the submandibular region did not show the presence of any other calculi. He was treated with intravenous antibiotics for 7 days following which his symptoms subsided and was discharged.

Discussion

Sialolithiasis is common and found in 65% of patients with chronic sialadenitis [1]. Being more common in males, calculi can form in any of the salivary glands. Submandibular gland being the most common site (80–92% of cases) [1]. Lower rates are seen in the parotid (6–20%), sublingual and minor salivary glands (1–2%) [1].

B. N. Shetty¹ · P. Sharma²

¹Department of General Surgery,
K. S. Hegde Medical Academy, Mangalore
Karnataka, India

²Department of General Surgery
A. J. Institute of Medical Sciences,
Mangalore - 575004,
Karnataka, India

P. Sharma (✉)
E-mail: prits_s@yahoo.com

Fig. 1 Photograph of the patient showing a swelling in the left submandibular region

Fig. 2 Photograph of the patient with mouth open showing the projecting giant intraoral sialolith

Fig. 3 Photograph of the sialolith measuring 27 × 8 mm

Factors that tend to favour submandibular gland stone formation are:

- The longer and larger caliber duct and slower flow rates in the submandibular gland compared with the parotid gland
- Tract through which saliva flows, is against gravity in the submandibular gland
- Alkaline pH of saliva in the submandibular gland
- High mucin and calcium content of the saliva in the submandibular gland.

The submandibular gland hosts the largest stones. The largest reported being 55 mm in length [2]. Most submandibular stones are found in the salivary duct (75–85%) [3]. Large sialoliths have been reported both in salivary glands and in salivary ducts. Stones larger than 3 cm are rare [2].

Salivary calculi are frequently formed in the submandibular duct. The most common sites are where the duct turns around the distal edge of the mylohyoid, and just distal to the duct orifice. Untreated calculi can cause obstruction and glandular atrophy, it may exfoliate through the floor of the mouth or present as a cutaneous fistula [4, 5].

Most common symptoms being, recurrent pain and swelling of the associated gland during meals. Recurrent or continuous obstruction of the salivary duct may lead to acute or chronic sialadenitis, which are the usual complications of sialolithiasis. However, fistula formation either oral or cutaneous from salivary calculi is rare [6].

Sialograms are effective in detecting ductal and intraglandular calculi. It is, however, contraindicated in acute infection. Ultrasonography is helpful in detecting salivary stones larger than 2 mm. Computed tomography is diagnostic, albeit more expensive.

Different management options may be selected according to the size and location of the sialolith. Removal of the calculi from the duct transorally is the preferred treatment for anteriorly localised sialoliths in the absence of infection, and submandibular gland excision is recommended for the posteriorly localised or intraglandular sialoliths [5].

Traditionally, recurring episodes necessitate treatment by open surgery. Once the diagnosis of an intraglandular salivary stone with destruction of the gland is established, removal of the entire gland via an extraoral approach is recommended. Extraoral excision of the submandibular gland carries a 0–8% risk of permanent or temporary marginal mandibular nerve palsy [7]. Shock wave lithotripsy and interventional sialoendoscopy have also been used in the management of small sialoliths in recent years. Sialoendoscopy is a minimally invasive technique for removal of small calculi from salivary glands as well as an excellent diagnostic procedure.

Large submandibular sialoliths palpated easily under the floor of the mouth can be removed with incising the mucosa directly over the sialolith while exerting digital compression

over the submandibular gland. Usually, there is no need to suture the incision, allowing the duct to heal spontaneously. Some unusual large salivary calculi may be seen without a long history, as in our case. It is believed that a calculus may enlarge at the rate of approximately 1–1.5 mm per year [8]. With this rate of growth; it is possible to speculate that the calculus of 27 mm length began to develop many years ago in our patient. How such a large calculus can stay for years within its duct without causing any significant symptoms is difficult to explain.

Perforation through the floor of the mouth by a submandibular sialolith is rare. As in our case, occasionally salivary calculi may reach unusual size without any significant symptoms. Large submandibular calculi measuring several centimetres, symptomatic or silent, have to be removed promptly for prevention of possible complications that may occur in the future.

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