Multiple submandibular duct (Wharton's duct) calculi of unusual size and shape

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Abstract Salivary gland stones are most common in the ductal system of submandibular glands and are calcified. A rare case of multiple submandibular duct (Wharton's duct) calculi of unusual size and shape in a 42-year-old male patient, who presented with pain and swelling in the region of submandibular gland and hence reported. Sometimes a small stone comes out into the mouth on its own or with gentle probing. However in this case a small intra-oral procedure was needed to remove the stones.

Keywords Submandibular gland · Submandibular duct · Wharton's duct · Sialolith

Introduction

Submandibular salivary glands are under the floor of the mouth one on each side, drains saliva up into the floor of the mouth (Wharton's duct). Eighty percent of all salivary duct calculi form in the Wharton's duct. 70 to 80% of cases features solitary stones, only about 5% of patients have three or more stones. Submandibular duct calculi occur most commonly in people over the age of forty years. The predisposition of submandibular gland duct calculi formation can probably be attributed to the alkaline and viscous composition of the saliva and high concentration of calcium, mucin and phosphate ions in submandibular secretion. The longer course and angulation of Wharton's duct also. The size of the calculi can vary from less than one to few millimeters. The typical symptoms of submandibular duct calculi are pain and swelling with eating.

Case report

A 42-year-old man presents with pain and swelling in the region of right submandibular gland on taking meals. Extra-oral examination revealed a palpable right submandibular gland. Intra-oral examination revealed a large, firm, tender mass in the right posterior portion of floor of mouth in the region of the duct. Radiography showed the mass to be radio opaque and extending below the angle of the mandible (Fig. 2). Complete haemogram and urine examination are within normal range. A diagnosis of a right giant submandibular duct calculus was made. At subsequent visit multiple stones of variable size and shape (Fig. 1(a) (b)) were removed under local anesthesia, intra-orally with sharp dissection. Two stones were of the size of 15–20 mm.

Discussion

Although large and multiple sialolith's have been reported in the salivary glands, they have been rarely reported in

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Fig. 1 Sialoliths of different size and shape

Fig. 2 Radiograph showing sialolith

the salivary ducts. Brusati R and Fiamminghi L reported a sialolith from the left submandibular duct of a 55-year-old man measuring 27/31 mm. Leung et al. removed a sialolith 14/9 mm from right submandibular duct. Tepan MG, Rohiwal

R L removed multiple salivary calculi from wharton's duct. The sialoliths removed in this patient is comparable to these and these can be removed by simple intra-oral route without any complications. Recently extracorporeal shock wave lithotripsy (ESWL) and endoscopic intracorporeal shock wave lithotripsy (EISWL) are gaining importance in the treatment of salivary calculi.

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