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A jumbo sialolith in small duct

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Abstract
Most sialoliths develop in the submandibular gland, with the duct being frequently more affected than the parenchyma, followed by the parotid gland, and small percentages affecting the sublingual and other minor glands.his condition affects 0.1%-1.0% of the adult population, typically between the ages of 30 and 60 years, with a higher incidence in males. Sialoliths greater than 15 mm in any one dimension are considered large, while those of 35 mm or more are described as giant. Our case, a stone in submandibular duct which was reported to be small in size but intra operatively turned out to be double the size which was mentioned in pre-operative CT scan.One should choose the most suitable method of treatment to the specific situation of the patient.

Keywords: Submandibular sialolith, submandibular swelling

Introduction

Sialoliths are the most common diseases of the salivary glands. This condition affects 0.1%-1.0% of the adult population, typically between the ages of 30 and 60 years, with a higher incidence in males. Most sialoliths develop in the submandibular gland, with the duct being frequently more affected than the parenchyma, followed by the parotid gland, and small percentages affecting the sublingual and other minor glands. The propensity towards occurrence in the submandibular gland has been attributed to the larger calibre and antigravity angulation of Whartons duct. Other causes include foreign bodies and ductal metaplasia. Sialoliths greater than 15 mm in any one dimension are considered large, while those of 35 mm or more are described as giant. Stones may be silent, clinically diagnosed, discovered on X-ray or ultrasonography, or present with complicating symptoms due to obstruction or infection. Herein, the case of a 50 year-old male patient with a painless large submandibular sialolith is described, in order to highlight various peculiar features that may predispose to stone formation.

Case Report

A 50-year-old male presented to with a painless hard swelling beneath the right floor of the mouth for the previous one year. The swelling had gradually increased in size, with an initial sensation of numbness in right floor of mouth. The patient experienced no pain associated with feeding. On palpation an oval mass measuring about 2×2 cm in the Right submandibular duct region. The mass was hard, non-tender, mobile, not adherent to the overlying skin or underlying structures, and was not associated with regional lymphadenopathy. Bimanual examination revealed no tenderness or intraoral purulent discharge. On palpation 2*2 cm the swelling was felt intraorally on the right floor of the mouth. The patient was clinically diagnosed with submandibular sialolithiasis. CT neck reported the size as 25*32 was done revealed a calcified hyperechoic mass adjacent to right 3rd molar in a vertical orientation along with hypertrophy of submandibular gland.

Under local anaesthesia and IV sedation, a vertical incision given over the swelling and sialolith was visualized. A small part of sialolith measuring approximately 10*5 mm was removed. Then the incision was further extended 2 cm more to remove the remaining sialolith as a whole. Final size of the stone was measured to be 55*10 mm. After careful inspection for any remnants the incision was closed in layers. The postoperative period was uneventful.

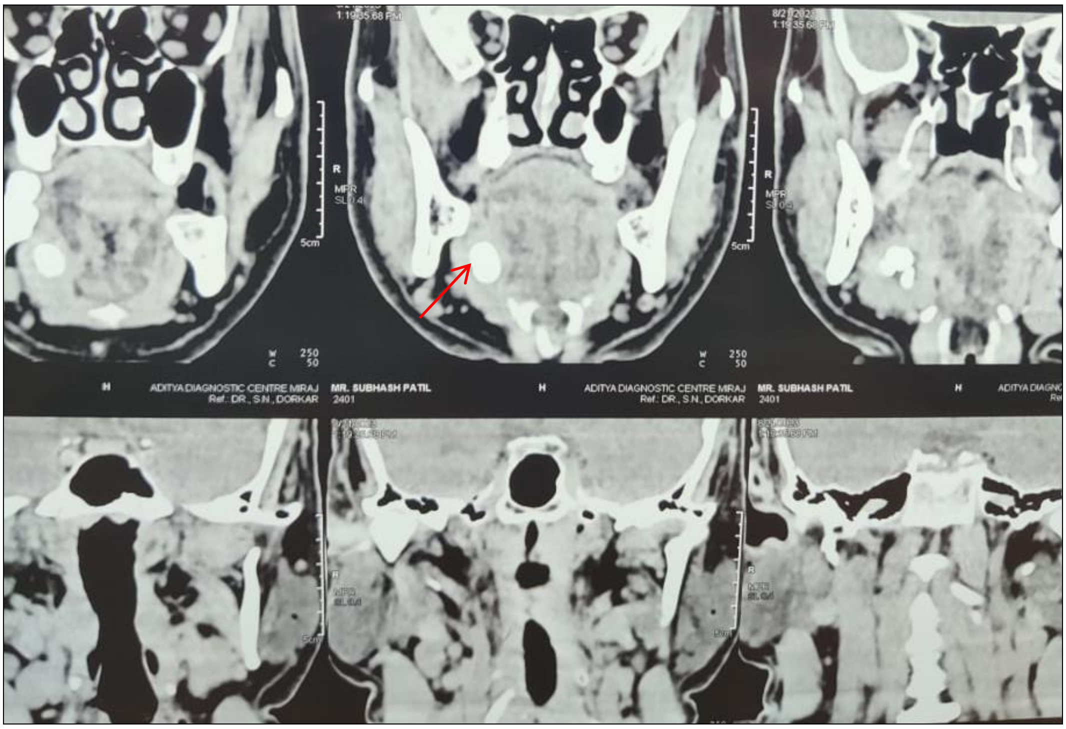

Fig 1: CT scan image showing sialolith in the submandibular duct

Fig 2: Intra operative photograph showing removal of a giant sialolith from submandibular duct

Fig 3: Photograph showing the giant sialolith measuring 55*10 mm

Discussion

Commonly, a sialolith of submandibular duct measures upto 10 mm, with a mean size reported as 6-9 mm. Giant sialoliths are rare and classified as those measuring >15 mm in one dimension. In our case, the sialolith measured 55*10 was occupying the submandibular duct and only second to the stone mentioned in the article published by Lokesh babu *et al*. in International Journal of Head and Neck surgery in the year 2011.

The diagnosis of sialolithiasis can be made on the basis of its clinical presentation and careful examination. It often presents as recurrent bouts of pain and swelling of the affected salivary gland, usually during mealtimes or in response to other salivary stimuli. Such findings were not observed in our case. In our case, the stone reached its current size without any pain. Bimanual palpation of the floor of the mouth revealed a palpable stone and normal gland

Radiological investigations are deemed very useful in diagnosing sialolithiasis. Radiopaque stones (more than 80% of cases) can be visualized on standard mandibular occlusal radiographs. Radiolucent stones or stones deep within the glands can be investigated using sialography. Ultrasonography (USG) with a high-frequency linear transducer (10-13 MHz) is considered the gold standard and first investigation of choice for parenchymal stones. Its sensitivity, however, decreases in ductal and papillary diseases.

The role of CT has not been discussed much. The locality of the stones can be determined (intraductal or intraparenchymal), as well as the size and number of stones present. But the size may vary from CT findings as observed in our case.Treatment options may be selected based on the clinical presentation, size, and site of the obstructing stone. Large stones or those located in the proximal duct may warrant piezoelectric extracorporeal shock wave lithotripsy prior to surgical removal in cases of difficult access. In our case the sialolith was removed in two pieces completely.

Conclusion

Our case, a stone in submandibular duct which was reported to be small in size but intra operatively turned out to be double the size which was mentioned in pre-operative CT scan. Although there are various methods for the treatment of sialolithiasis depending on the size and site of the stones, but one cannot completely rely on pre-operative investigations and CT scan findings. One should choose the most suitable method of treatment to the specific situation of the patient.

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Conflict of Interest
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