PAROTID DUCT SIALOLITHIASIS: A CASE REPORT

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ABSTRACT

Parotid sialolithiasis, though uncommon salivary gland sialolithiasis, can present as unilateral painful or painless swelling of the gland. Often the stone is situated in the ductal system rather than gland itself. We are presenting a case of 32 years female with right parotid duct sialolithiasis. She presented with intra-oral swelling at parotid duct opening. The sialolith was removed under local anaesthesia by placing incision directly over the sialolith parallel to the course of salivary duct exposing the stone via intra-oral approach.

Keywords: local anaesthesia, salivary duct, sialolithiasis

INTRODUCTION

Salivary sialolithiasis is less common in parotid gland accounting for almost 6-15%.[1] The typical history in patients with a parotid calculus is of intermittent pain and swelling, that usually aggravates with meals or when brushing the teeth.[2] The parotid gland calculi mostly affect the duct and are commonly unilateral with size smaller than 1cm.[3] The stones that are close to the opening of the duct can be extracted by dilatation or dissection of the duct. The treatment option for the stones in proximal duct and parenchyma is parotidectomy.[4]large, symptomatic, parotid stones that were refractory to conservative treatment were usually managed by parotidectomy, with the attendant risk to the facial nerve. Microendoscopes have transformed the management of such stones. For large stones that are not amenable to retrieval with a basket the endoscope provides a new dimension to operative surgery. It can guide the surgeon on to the duct and stone without the need to remove the parotid gland. In 2005-2014, 111 consecutive patients underwent endoscopically-assisted operations for the removal of 132 parotid stones at Guy's Hospital. Removal was successful in all but three cases. Long-term follow up (mean (SD

CASE REPORT

A 32 year old female presented to the department of ENT-HNS with complain of intra oral firm swelling in right buccal mucosa associated with occasional pain with intake of food.

On examination, there was no swelling in the cheek. The inspection of oral cavity revealed localised single swelling measuring 5x5mm in the right buccal mucosa opposite to right 2nd molar corresponding to the area of opening of parotid duct (Figure 1). On palpation, there was firm swelling at the opening of the parotid duct which was tender but not adhered to deep structures. There was no pus discharge on milking of the duct or massage of the corresponding parotid gland.

Figure 1. Black arrow showing swollen right parotid duct.

Ultrasonographic imaging revealed well defined round shaped echogenic area of approximately 1cm in the buccal mucosa in right maxillary region with post acoustic shadowing with possible diagnosis of sialolithiasis of parotid gland duct or granuloma.

Treatment strategy involve removal of the sialolith under local anaesthesia. After achieving adequate local anaesthesia, an incision was placed directly over the sialolith parallel to the course of salivary duct and the stone was exposed. Further dissection was done around the sialolith in order to separate it and the stone was removed. During removal of the stone, it was broken into two pieces with the size 6x4mm and 4x4mm (Figure 2). Parotid duct was sutured to the surrounding buccal mucosa to avoid stricture and fibrosis of the duct. Suturing was done using 3-0 vicryl (Figure 3). Saliva was coming from the duct on massaging the parotid gland. Patient was discharged on oral antibiotics and analgesics. Patient was advised to follow up after 1 month in ENT-OPD.

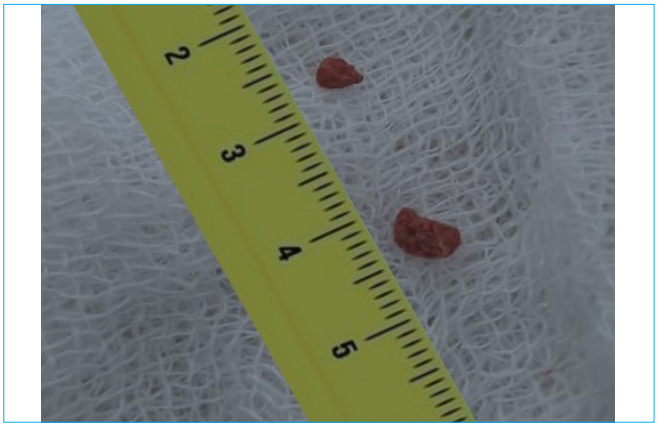

Figure 2. Parotid duct stone broken into 2 pieces during retrieval measuring 6x4mm and 4x4mm.

Figure 3. Marsupialization of parotid duct after stone removal.

DISCUSSION

The sialoliths are thought to form by deposition of calcium salts around a central nidus which may consist of desquamated epithelial cells, bacteria, products of bacterial decomposition or foreign bodies.[5] Stenoza et al. stated that salivary ductal stenosis of the parotid duct system can be one of the reason for calculi formation.[6] Parotid sialoliths typically present with pain during meal and recurring or painful swelling of the parotid gland. In some cases, patients complain of firm swelling near parotid duct opening or recent history of dry mouth. If acute sialoadenitis develops, it results in infection accompanied by pus discharge from the duct opening.

Different imaging techniques to diagnose the salivary calculi include conventional radiography, sialography and ultrasonography. High-resolution non-contrast CT scan is the imaging modality of choice for the evaluation of salivary stones. This is due to the fact that many calcified sialoliths are not visible on intraoral and panoramic radiography until they are 60-70% calcified.[1] Sreetharan and Philip preferred ultrasonography as the first line investigative modality for salivary calculi.[2] In USG, the calculus appear as white echogenic structures with glandular inflammatory changes of the salivary gland.[7]

Sialography is the technique in which a dye is injected into the duct, and obstruction is demonstrated as a filling defect in the duct. Sialoendoscopy is a better option to visualize the stenosis and inflammatory changes in the duct.[8]

The size and location of the calculi determine the treatment options in sialolithiasis. In case of small calculi, conservative managements like oral analgesics, hydration, local therapy such as warm heat, milking of Stenton's duct and natural sialogogues such as small slices of lemon or vitamin C lozenges are useful. Surgical treatment depends on the position of the calculi. If the parotid calculi are extra-glandular and external to buccinator muscle, then simple slit like incision near the papilla of the duct aids in removal of the stone. Interventional sialendoscopy is successful for mobile stones and stones less than 5 mm while fixed stones and stones larger than 5 mm can be managed by extra corporeal shock wave lithotripsy (ESWL).[9] Open surgical management like parotidectomy is reserved for sialoliths for which minimal invasive treatment and shock wave lithotripsy have failed, multiple stones(> 3mm stones) in the same gland, and recurrent episodes of sialadenitis.[10] The risk of temporary facial nerve palsy after superficial parotidectomy varies from 16% to 38% while permanent palsy is up to 9%.[11] In our case, the stone was extraglandular but the larger size of stone prevented it from milking out through the duct. Hence it was removed through a transoral incision under local anaesthesia. Patient tolerated the procedure well and was discharged following the procedure.

CONCLUSIONS

Parotid sialolithiasis is less frequent than that of submandibular sialolithiasis, usually affecting the salivary duct rather than gland. It should be removed to prevent further complications. The technique used in stone removal depends on its size and location.

ACKNOWLEDGEMENT

I would like to thank the patient for giving consent for this publication, my colleagues and the operation theatre staffs.

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