Case Report

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Parotid sialolithiasis with Stenson's duct stricture: a rare case report

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ABSTRACT

Sialolithiasis is the most common disease that affects the major salivary glands and occurs mainly in the submandibular gland (80-90%), and to a lesser degree in the parotid gland (5-20%). In literature many papers have been published regarding the parotid calculi and their treatment. However, data on salivary duct strictures management is less with variable opinion. We present a case of 45-year-old female with swelling of right parotid for 6 months, USG showed duct calculi with sialadenitis and sialogram showed large duct calculi with high grade strictures. Duct calculi was removed by intra-oral approach and parotidectomy was done as endoscopic management of strictures failed. This was highlighted case as parotid duct calculi along with high grade strictures are rare.

Keywords: Parotid sialolithiasis, Stenson's duct stricture, Parotid gland

INTRODUCTION

The most common disease affecting the major salivary glands is sialolithiasis and occurs mainly in the submandibular gland (80-90%), and to a lesser extent in the parotid gland (5-20%). Conventionally calculi in the distal section of the parotid duct near the punctum are removed through an intraoral approach.2 Those in the proximal duct and parenchyma pose more of a problem, particularly when sealed into the duct with strictures.2 Salivary duct obstruction is mainly secondary to calculi, stenoses or fibro-mucinous plugs with the resulting stasis predisposing to bacterial infection.³ Numerous papers have been published regarding the incidence of calculi and their treatment. However, very few articles have been written on salivary duct strictures.3 In this case both calculi and stricture co-existed, so it was decided to present a case report.

CASE REPORT

A 45-year-old female patient presented with swelling in the right parotid region since past 6 months, insidious in onset, increases in size during meals and decreases postmeal. Associated with pain since past 3 days, continuous and throbbing type. On examination swelling of size 5×4 cms present over the right side of face in the parotid region extending from the angle of mandible below to about 3 cm above the tragus. Skin over the swelling was normal. There was no local rise in temperature, tenderness was present. Swelling was soft in consistency, non-pulsatile, non-fluctuant and non-transilluminant.

Papilla of Stenson duct had surrounding induration, deep lobe the parotid gland was palpable on bidigital examination. Pus discharge was present from Stenson duct papilla on pressing the swelling. A provisional diagnosis of acute on chronic sialadenitis was made. USG of parotid region showed features suggestive of right parotid sialadenitis secondary to Stensons duct calculus, with calculus measuring 10 mm in the distal end of the Stensons duct. Patient was initially conservatively to treat the active infection. Once patient recovered from active infection sialogram was done which showed features suggestive of right parotid sialolithiasis with sialodochitis and high-grade stricture within the main duct (two in number, 1 and 3.5 cms from the duct orifice). Patient underwent extraction of stone surgically via intra-oral approach (in view of large size) and patient was referred for endoscopic management of stricture. Endoscopic management failed due to multiple stricture and hence patient underwent total parotidectomy. Post-operative period was uneventful with no signs of facial nerve palsy in immediate post-op period and 1 month of follow up.



Figure 1: Sialogram showing parotid calculi (red arrow) and duct stricture (white arrow).



Figure 2: Intraoperative picture of parotid calculi delivered via intra-oral approach.

DISCUSSION

The pathogenesis of sialoliths depends of many factors such as secretory disturbance, microliths and infection. Patients usually present with episodic swelling and discomfort which increases on food intake and decreases post meal.⁴ The differential diagnosis of salivary calculi includes infections (bacterial and viral), inflammatory conditions (Sjogren's, sarcoidosis, radiotherapy reaction) and masses (neoplastic and nonneoplastic).⁴

Ultrasonography and sialogram are the usual investigations used to diagnose sialolithiasis. In sialography, a dye is injected into the duct, and it can demonstrate obstruction as a filling defect in the duct and duct stenosis. USG identifies calculus as white echogenic structures with glandular inflammatory changes of the salivary gland.⁴ Strictures can occur as a single or point stricture, or as multiple strictures at any point along the salivary duct, involving one or more of the major glands. The pathology of stricture is not clear but hypothesised to be secondary to repeated infection of gland.³ Ductal stricture may be more pronounced in the parotid ductal system because of the smaller diameter of the parotid duct as compared with the submandibular duct.⁵ In recent times minimal invasive procedures are being used over conventional surgery for management of both sialolithiasis and ductal strictures. Sialo-endoscopy, fluoroscopy-guided wire basket extraction, lithotripsy are the minimal invasive approaches.

The decision about which technique to utilise depends on stone size, location and procedure availability. Severe obstruction usually requires surgical intervention, especially when the obstruction is close to the gland and there is a large stone.4 Post endoscopic procedure the patient is instructed to stay well hydrated and should try to maintain a consistent salivary flow, which will allow debris, such as small fragments of stone, mucous plugs to be flushed.¹ Balloon dilatation at the site of stricture has been shown to be a safe and effective treatment but does not appear to have been widely adopted. In our case we extracted the stone via intra-oral surgical approach as it was a large stone (1 cm) and near the papilla. Endoscopic balloon dilatation of stricture failed due to multiple strictures and hence we did superficial parotidectomy. Post-operatively and on follow up patient was symptom free and had no signs of facial nerve injury. Common complications associated with endoscopic approach are duct perforation, duct avulsion and post-operative ductal stricture.6

CONCLUSION

Sialolithiasis is rare entity in parotid gland and usually involves the submandibular duct. In the scenario both sialolithiasis and ductal stricture should be managed with minimal invasive approach, wherever possible. Large stones and high grade strictures mostly require surgical approach.

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