A Junctional megalith of submandibular gland - A rare case report

Sanjay Kishve¹, S.B.V. Chandrasekhar²
¹ Professor & Head of the department
² Assistant Professor
Department of ENT, MNR Medical College & Hospital, Sangareddy.
*Corresponding author : Dr. Sanjay Kishve
Email Id: skishve@gmail.com
Date of Submission: 28th February 2019; Date of Publication : 30th March 2019.

ABSTRACT

Background: Sialolithiasis is one of the common disorders encountered in salivary glands. It is more common in submandibular gland and its duct. The incidence of giant salivoliths is rare. An interesting case of a giant submandibular salivary gland calculus, nearly 2.5 x 2 x 1 cm size was diagnosed and was planned for excision. The etiology, pathogenesis and management is discussed. Materials and methods: In the present case-report, 42 year old female came with complaint of pain in the left side of floor of oral cavity with swelling in the left side of the neck in the submandibular triangle. A review of literature was also done. Results: The case was investigated for location of the sialolith and its surgical exploration and excision of the gland was done and the result was optimal. Conclusion: Based on observations and review of literature, early detection, management may yield optimal results. Intraoperative findings and decision may have to be considered for the excision of the gland.

Key words: submandibular salivary gland, giant calculus, management, excision.

INTRODUCTION

Sialolithiasis is one of the most common disease of the salivary glands in the middle age group individuals. Majority of them occur in submandibular gland or its duct accounting to nearly 80 % of the incidence and form the commonest reason for the infections of the gland. The size may be from 1 millimeter to few centimetres. More than 1.5 centimetres are called Giant sialoliths. In this case study we are reporting a case of a giant salivary calculus of nearly 2.5 x 2 x 1 cm size and a review of literature done.

CASE REPORT

A 60 year old female reported to the department of ENT, MNR Medical college & Hospital Sangareddy, Telangana with complaints of pain in the left side of the floor of oral cavity and swelling in the left side of the upper neck since 3 months duration pain was aggravated by taking food and relieved by medication. Patient had similar complaints in the past 2 years, and were intermittent with relief on taking medical advice.

On examination patient had a swelling in the left submandibular region nearly 3 x 3 cm, occupying the left submandibular triangle, minimal tenderness present and is firm on palpation. The lump was palpable bi-digitally and was confirmed as a submandibular swelling. There is no evidence of lymph node enlargement. Rest of the examination of the neck was within normal limits.

Patient was sent for ortho-pan-tomogram, which was revealing a radio opaque object in the left submandibular region [fig :1]. Ultrasound neck was also done which revealed a calculus in the substance of the submandibular gland. Rest of the neck was normal.

The patient was investigated for blood picture and serum biochemistry levels, which were within normal limits. General health history was normal.

After explaining the patient about the condition, patient was counselled for surgery. Information was given to the patient and the family members about the surgical procedure that the calculus may be removed intra orally if possible. If not possible intra orally submandibular gland excision has to be done. After taking the consent patient was posted for surgery and a trial was given for the removal of the calculus and was removed successfully. [fig :2]. Intraoperatively the gland was found to be thickened and fibrotic along with the presence of this large calculus at the junction of duct and the gland proper. The gland was also excised completely through extra oral route and one more residual small part of the big calculus was retrieved [fig: 3] at the junction of the duct and the gland proper, with fibrotic changes and thickening of the gland tissue. Drain kept in place for 2 days and suture removal after 1 week [fig :4]. Post operatively patient was healthy with symptoms relieved and follow up was done monthly for 3 months period and patient has no complaints.

Access this article online

Quick Response Code

ISSN: 2581-6071 (Online) : 2581-6497 (Print)

This is an open access article distributed under the terms of the Creative Commons Attribution-Non Commerical-Share Alike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: chiefeditor@mnrindia.org; chiefeditor@pmnrmr.org


Sanjay Kishve et al

www.pmnrmr.org
the knee of the duct are amenable for removal from trans-oral route. Sialadenectomy was done. Nearly many stones, those including in the next step. Due to the fibrotic changes, a prophylactic first, as it was fragile and left over part was completely removed in Treatment options depend upon the case. In our case we tried the calculus. If the flow of the duct is uninterrupted it may be drainage of the secretions and may further help in the growth of the gland and formation of sialo-oral fistula and protrusion of the gland, which blocks the secretions leading to swelling, pain, infection of the duct. A calculus may grow and become giant, based on the reactivity of its saliva, greater calcium and phosphate content, higher mucus consumption was disproved by few authors. Large salivary calculi have been reported in the literature, but there are very few cases of ducts and junction of the duct and glands. According to a study one of the largest reported calculi in the submandibular duct was 5.5 x 5 x 4 cm in size. The present case is rare in view of presence of the duct at the junction of duct and the gland, which kinks over the mylohyoid muscle which has an antigravity course. But the relationship with hard water content than other salivary glands. It is also due to the duct of the submandibular gland that kinks over the mylohyoid muscle which affects the parotid glands, but occasionally involves the submandibular glands and rarely the minor salivary glands (Scully 2008). This can be painless or in some instances tender. These all features make the presentation in this case a rare entity, on follow-up the patient is doing well with improvement in her complaints.

**DISCUSSION**

Stagnation of the saliva, alkalinity of the saliva, rise in calcium content of the saliva, infection, inflammation of the salivary gland and physical trauma to salivary duct and gland may predispose to calculus formation. There are two theories explaining the calculus formation. First theory states that the intracellular micro-calculi that develop in the auto-phagosomes of the normal salivary tissue are naturally voided through the duct system. If they get impacted they lead to calculus formation. Second theory talks about the mucus plug formation that gets calcified after being supersaturated. The submandibular gland is most susceptible due to more alkalinity of its saliva, greater calcium and phosphate content, higher mucus content than other salivary glands. It is also due to the duct of the submandibular gland that kinks over the mylohyoid muscle which has an antigravity course. But the relationship with hard water consumption was disproved by few authors. Palpability of the calculi regardless of the size of the stone, is one of the most important factor in successful trans-oral removal of the stone. The most important factor to be considered in such a situation is whether the gland has suffered any irreparable functional damage. In our case the gland was showing fibrotic changes with thickening which were not the features of a normal gland has made us remove the gland. In few experimental studies there was extensive regeneration of the glandular tissue with prolonged ligation of the duct. Most of the studies clinically showed the improvement of the function of the gland after trans oral removal. But gland infection, calculus size, patients age are the factors which are the factors which influence the recovery of gland function. Sialosis (sialadenosis) is a chronic, bilateral, diffuse, non-inflammatory, non-neoplastic swelling of the major salivary glands that primarily affects the parotid glands, but occasionally involves the submandibular glands and rarely the minor salivary glands (Scully 2008). This can be painless or in some instances tender. These all features make the presentation in this case a rare entity, on follow-up the patient is doing well with improvement in her complaints.

**CONCLUSION**

Submandibular salivary calculi are the most commonly encountered among the salivary glands. If the calculus was in the duct with a sialo-oral fistula formation, it would help in free flow of saliva and amenable for intra oral removal. But if it is at the junction of the duct and the gland, which may cause intra glandular changes like thickening of the gland, causing irreversible functional damage due to back pressure and not amenable to intra oral removal, submandibular salivary gland excision is a justifiable treatment option even though there is loss of function. Histopathology of the specimen revealed chronic sialadenosis.

**REFERENCES**