

Sialolithiasis- A Case Report

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ABSTRACT

Sialolithiasis is one of the most common salivary gland disease, which commonly seen in the Wharton's duct of submandibular salivary gland. Which has a high frequency of secondary infection by oral bacteria's which affects the gland retrograde, since the Wharton's duct located in the floor of the oral cavity. Various investigation methods are done to identify sialolith which are ranging from tradition X-rays including occlusal radiographs and opg to contemporarily using CT Scans. Here in this article we present a case of sialolithiasis of the right side in the submandibular gland which secondarily infected.

Key words: Sialolithiasis Submandibular gland, Sialolithotomy Wharton's duct

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CASE REPORT

A 42 YR OLD MALE patient came with chief complaint of mild pain and pus discharge in the right side of the mouth for past 1 month. Before two weeks, the patient noticed pus discharge and minor swelling below the chin, especially after meals. These symptoms finally went away in three to four hours. The patient had no relevant medical or family history. Both generalized recession and generalized attrition are seen on intraoral inspection. A single, well-defined swelling in the right side of the mouth's floor that is around 1 by 1 centimeter's in size. Upon bimanual palpation, the right side submandibular orifice was erythematous and had a noticeable pus discharge. It was also rather sensitive and movable with a substantial pus discharge. A radiopaque mass, circular in shape and measuring 1*1 cm in size, was found on the right submandibular area on an occlusal radiograph. This mass corroborated the diagnosis of secondary infection of submandibular sialolithiasis.

DISCUSSION

The genesis of salivary stone production remains unknown, and the extremely low prevalence of the illness makes large-scale investigations challenging. As a result, research into etiologic

INTRODUCTION

The most frequent condition affecting the salivary glands in middle-aged adults is sialolith or salivary stones. They are stones in the ducts connecting the main and minor salivary glands. Although the specific cause of sialolith formation is uncertain, it is believed that more alkaline, viscous, mucous-rich saliva is responsible [1]. Sialolithiasis symptoms often include soreness and swelling in the parotid or submandibular area during meals [2]. The most typical sign of submandibular stones is swelling, followed by discomfort. The salivary gland may be destroyed and connective tissue may grow over time if there is a long-term restriction of salivary flow. Dissected submandibular salivary glands exhibited atrophy of acinar cells, periductal and interlobular fibrosis, and lymphocytic infiltration. It is treated by transoral sialolithotomy and theories of aetiology, common and atypical sites, clinical characteristics, diagnostic and therapeutic techniques, as well as their indications and contraindications [3].

factors is still severely restricted [4]. The two primary types of causes of salivary stones are compositional -increased calcium content and anatomical - duct constriction which impede salivary flow or synthesis.

Sialolithiasis cases increase between the ages of 40 and 50. In comparison to those with submandibular stones, individuals with parotid stones seem to be slightly older on average. Between 72 and 95 percent of cases involve the parotid gland; 4 to 28 percent involve the submandibular gland. Submandibular stones are discovered in the duct 80–90% of the time; the distal duct and the hilum include 34–57% of them. Only 10% of submandibular stones are gland- specific. Larger and longer ducts and slower salivary antigravity flow caused by

angulation of the mylohyoid muscle are intrinsic factors specific to the submandibular gland that promote stone development.

A little concretion known as a sialomicrolith is seen in salivary glands. Necrotic cell waste and crystals of calcium and phosphorus make up these concretions. Researchers have discovered that sialomicroliths can be detected in the lumen, interstitium, striated ductal cells, and serous acinar cells of approximately 90% of normal parotid glands and nearly all normal submandibular glands. Sialomicroliths were found more frequently in the submandibular gland, which may be explained by the gland's higher calcium concentration. Micro calculi can vary in size from 25 μ m intracellularly to 70 μ m in the acinar lumen to 35 μ m interstitially, depending on their location.



Figure 1: Marked pus discharge is seen on bimanual palpation.



Figure 2: Single well defined in the floor of the mouth.



Figure 3: Mild swelling in the left side of the face.

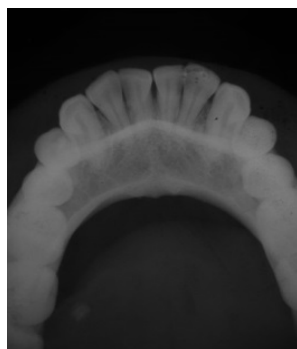


Figure 3: Mild swelling in the left side of the face.

The age of the patient has an impact on the intraglandular duct system of the submandibular gland, where sialomicrolith formation is more common in those 40 years of age and older. The absence of secretion from a functioning salivary gland also promotes the production of sialomicroliths. There are rare occasions where the salivary calculi are impacted, leading to local micro obstruction. This micro obstruction may arise in chronic sialenditis and atrophic foci [Figure 1]. If these tiny impediments accumulate, saliva may form a stone-like blockage. Many oral commensal bacteria have been found in the core and surrounding sialoliths, mainly belonging to the *Streptococcus* or *Peptostreptococcus* species. The external surfaces of the salivary gland calculi that were infected were found to have a notable bacterial concentration with a diameter of 0.5– 1 m. Pus discharge on bimanual palpation in case number four, which suggested a future infection [5].

Sialolithiasis may induce oedema that is uncomfortable (59%) or that is uncomfortable but not painful (29%), or it may cause discomfort alone (12%). Patients will frequently have salivary colic and endure spasmodic discomfort throughout meals. Both recurrent infections and abscesses may occur in the patient [Figure 2,3]. Furthermore, salivary stones could inadvertently be detected during a standard examination or on dental radiographs. Naturally, not all patients with stones may experience symptoms. This is contingent upon the degree of constriction on salivary outflow. Similar to people who have a salivary gland disorder, this patient had mild right submandibular swelling and pain that got worse when they ate.

In addition to prescribing antibiotics for this patient, the sialolith was recommended for surgical removal. The following are the suggested

treatments at the moment for sialolithiasis:

The following treatments are available

Intra or extra oral surgical therapy (calculus or gland removal); sinalendoscopy (using a basket probe and a camera to look inside the body); sinalendoscopy is only used in cases of infection or invasive therapy. The process of extracorporeal lithotripsy involves using ultrasound or laser pulses to break up the calculus [6].

Massages of the glands and sialagogues, which promote salivation, the intra- or extra- oral method is employed in accordance with the clinical assessment. When sialolithiasis is anterior, the intra-oral method is typically performed [7].

Sialolithiasis management: The criteria for managing sialoliths depend on whether they are palpable or not, as well as whether they are anteriorly or posteriorly placed. In addition to sinalendoscopy for small [$>4\text{mm}$] posterior calculi, surgery is used to treat anterior and posterior non-palpable salivary calculi as well as palpable anterior and wide posterior calculi. When a sialolith is found in the hilum, a submandibulectomy is done.

CONCLUSION

Sialoliths should always be taken into account in cases of face and submandibular pain, especially if it occurs during mealtime. A comprehensive medical history combined with precise imaging methods is required to determine the precise site of the calcium and validate the clinical diagnosis.

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