

KILEY/MEGALITH/SIALOLITH – A SPECIAL CASE REPORT

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<p>¹ Senior Lecturer, ² Professor and Head, ³ Professor, ⁴ Reader, Department of Oral and Maxillofacial Surgery, JKK Nattraja Dental College, Kumarapalayam</p>	<p>ABSTRACT Giant sialoliths or megaliths detected in the submandibular duct measuring more than 3.5 cm have been categorized as a rare presentation. According to the literature, only 29 such cases have been reported over the past 22 years . Formation of calcific concretions within the parenchyma or ductal system of the major or minor salivary glands are called salivatory stones or sialolithiasis. Transoral sialolithotomy is a versatile procedure for the management of sialolith occurring in the distal portion of the ductal system. In this article we present a case of transoral sialolithotomy of submandibular duct done under local anesthesia along with an overview of, clinical presentation, diagnostic aids and various treatment modalities. Keywords: kiley, Megalith, Sialolith, Transoral sialolithotomy.</p>
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INTRODUCTION

Formation of calcific concretions within the parenchyma or ductal system of the major or minor salivary glands are called salivatory stones or sialolithiasis. sialolith is more common in middle aged adults and sex predilection more in males ³ . The stones are formed by the precipitation of calcified structures around a nucleus that is made of

the foreign bodies in the gland, desquamated epithelial cells, degradation products of the bacteria or the bacteria itself. 83% of the salivatory stones is found in the submandibular gland, 10% of them belongs to the parotid and the sublingual gland comes up with 7%. Aside from the major salivatory glands, the minor ones also contain stones³.

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The stones can be classified as anterior, posterior and intraglandular according to the position. The unilateral stones, usually, when reached to the considerable size, cause to partial or total obstruction of the canals. Management of sialolithiasis range from conservative and minimally invasive procedures to gland excision. Transoral sialolithotomy is a versatile procedure for the management of sialolith occurring in the distal portion of the ductal system. In this article we present a case of sialolith/megalith along with an overview of clinical presentation, diagnostic aids and various treatment modalities. The typical presentation of sialolithiasis is combination of pain and swelling, involved in salivary gland which is intensified during meal times. This sudden increase in saliva production and flow causes severe pain, even in a partially obstructed salivary gland and/or duct 4 . The most usual site of their occurrence is Wharton's duct or a submandibular duct due to alkalinity and viscosity of saliva, higher quantity of mineral salts, such as calcium, and tortuous ductal course. Wharton's duct exhibits the highest incidence of sialolithiasis, followed by Stensen's duct, and the least incidence is seen in Bartholin's duct⁵. Giant sialoliths or megaliths detected in the Wharton's duct measuring ≥ 3.5 cm have been categorized as a rare presentation.

According to the literature, only 29 such cases have been reported over the past 22 years¹

CASE REPORT

A 48 years/male patient with a complaint of stone like sensation and intermittent pain under left side of the tongue for past two weeks . History reveals that, he is a moderate smoker and recently had developed a habit of frequently sipping cold water while having food due to decreased salivation. Extraorally there was no swelling , or any form of abnormality detected. Intraorally , a hard mass is present in the floor of the mouth which resembled a tooth structure . On examination a 1 x 3.5 cm swelling was present in the left side of floor of mouth in relation to 33,34 region. Mucosa overlying the swelling was slightly inflamed and tenderness on palpation . A lower occlusal radiograph showed a nodular radioopacity measuring approximately 1 x 3.5 cm at the left lingual aspect of anterior mandible. OPG revealed that a radioopacity extending from 31 to 36 region. Occusal radiograph and OPG revealed the presence of a sialolith. The treatment options range from transoral sialolithotomy , laser assisted sialolithotomy , extracorporeal and intracorporeal shock wave lithotripsy, sialoendoscopy and basket retrieval salivary gland excision . In this case ,

Transoral sialolithotomy was done to remove the submandibular duct stone under local anaesthesia. The location of the stone was confirmed by occlusal radiograph . After giving LA, a suture was placed behind the stone to avoid the posterior dislodgement of sialolith on manipulation . The sialolith was palpated and a superficial incision was made over the sialolith using a BP blade no. 15, followed by blunt dissection, and the sialolith was removed. The sialolith measured around 1 x 3.5 cm in diamention . In this case the duct was not sutured and the overlying mucosa was closed with vicryl . The patient was kept on post operative antibiotics and antiinflammatory agents for 5 days and adviced to consume citrus drink to stimulate salaivary flow followed by postoperative instructions.



Figure 1



Figure 2



Figure 3



Figure 4

Discussion

The case that is discussed in this article is unusual in nature, because they do not coincide with the conventional data present in the literature. Firstly, the novelty of this case report is evident from the fact that sialolithiasis is mostly characterized by painful swelling of the associated gland but, in the forementioned case , the patient remained pain-free for over an average period of some weeks . Secondly, pain during mealtimes is one of the touchstones for the establishment of diagnosis of sialolith, however, the patient was pain-free even during mealtimes till before two weeks of the presentation. Thirdly, the mammoth-sized submandibular sialolith reported in this case is not common in the literature. Only a few studies have reported

a sialolith bigger than the sialolith mentioned in this case. Fourthly, this case report highlights the importance of proper diagnosis. A dentist/physician can easily confuse a submandibular sialolith with mandibular torus or osteoma, calcified lymph nodes, tuberculosis of salivary gland, myositis ossificans, or metastasis from distinct calcifying neoplasms. Several imaging techniques play a vital role in successful diagnosis of sialolithiasis. Ultrasonography (US) is regarded as the first-line imaging modality because it is noninvasive, inexpensive and readily available⁶. Moreover, it does not have any radiation exposure⁷. According to Jager et al⁸, the sensitivity of US in the detection of sialolithiasis is 59.1%–93.7%, while having specificity equal to 86.7%–100%. Conventional intra-oral radiography is considered to be more effective than extra-oral X-rays, especially trans-occlusal end-oral radiography. Sialography is also considered an adequate imaging modality that permits the whole duct system to be visualized after injecting either water soluble (like renografin) or fat soluble contrast media (like ethiodol). However, it is contra-indicated if the patient is sensitive to contrast medium or has an acute infection. Scintigraphy can also be utilized when sialography is contra-indicated, or when glandular ducts are non-permeable. Sialoendoscopy is

another technique of directly visualizing intra-ductal calculi, which has largely replaced the old gold standard sialography. However, it is contra-indicated in instances where the ductal system is extremely tortuous⁹. Other modalities, like digital subtraction sialography and high resolution ultrasonography, have also been recommended for the evaluation of salivary gland disorders. Computerized tomography (CT) is performed only if the stone is large, or if radiological slices need to be visualized in every millimetre. Its limitations include, inability to localize the salivary stone precisely and lack of visualization of the ducts and their anomalies¹⁰. In this case, a lower occlusal radiograph, OPG were used for diagnostic purposes. Intra-glandular sialoliths and longstanding obstructions can cause severe damage to the gland, resulting in a decrease or complete absence of salivary flow. This leads to recurrent infections which mandates complete removal of the gland along with the sialolith^{11,12}.

Conclusion

Proper history, clinical and radiologic evaluation is important for diagnosis. From the various treatment options, the choice of treatment for a particular case, depends upon the site, size of sialolith and patient preference. Initially, managed conservatively and using minimally invasive techniques. Once diagnosis is

established, the best possible approach for removal should be used to avoid post-operative complications. Early identification and removal of sialoliths is essential to prevent permanent damage and to re-instate function of the salivary glands.

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