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Sialolith mimicking a supernumerary canine: A case report

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Abstract

The formation of sialolith in submandibular duct is a common occurrence and can cause severe functional disability. Generally they are small in size but some of the long standing ones reach a size up to 1.5cms which are rare. Some of the giant salivary calculi are reported in the literature as megaliths or giant calculi. Here we present a case of huge sialolith resembling a canine. Radiographic and clinical examination confirmed the diagnosis of sialolith of the left submandibular duct. As the location of the sialolith was near to the orifice it was surgically removed and sialodochoplasty was done. After four years of follow up the patient is relieved of all symptoms of pain with no recurrence.

Keywords: Sialolith, submandibular duct, salivary gland.

1. Introduction

Sialolith is one of the most common pathology occurring in the salivary gland and duct system and has shown a frequency of 0.15% in adults [1, 2]. The male predilection is more and around 80-90% of them develop in submandibular gland ducts [3]. The theory of formation of this calculi has been extensively studied and has been attributed to salivary stasis, salivary viscosity, and the calcium content all of which play a synergistic role in development [1].

This disease process is sometimes symptomless and therefore the patients do not seek treatment until it attains a significant size, or infection, pain and functional problem. Commonly found sialoliths are less than 1 cm in size. Here we present a case of a large sialolith mimicking a canine tooth in the left submandibular duct along with the surgical management and follow up.

2. Case Report

A 34-year-old male patient reported to the Department of Oral and Maxillofacial Surgery to our institute, complaining of pain and swelling in the floor of the mouth since the last 1 year. There was a history of intermittent increase in the swelling and pain during eating which later subsided on its own. The pain was mild, localized and patient also reported two episodes of fever over a period of last one year. Recently since one week the patient complained of severe pain and pus discharge during meals.

Intraoral bimanual palpation revealed a swelling of size 2 × 1 cm extending anteroposteriorly and mediolaterally on the left floor of the mouth from the canine to molar region. Overlying mucosa was normal with moderate salivary obstruction along with slight inflammation and induration of left Wharton's duct. The swelling was found to be hard in consistency and tender. The pathology was not fixed to the underlying structures [Figure 1]. Extraoral examination also revealed a diffuse induration in the left submandibular region with normal overlying skin.

Radiographic investigation with a occlusal radiograph revealed a radiopaque mass of size 2 x 1 cm extending anteroposteriorly and mediolaterally from the mandibular canine region to molar region in the floor of the mouth. Thus intraoral examination along with radiological findings were suggestive of a sialolith [Figure 2].

The patient was apprehensive and therefore opted for the procedure to be done under general anesthesia. The sialolith was present closer to the ductal orifice. Therefore an incision directly over the stone was planned. Since the widest portion of the stone was located anteriorly a small incision of around 5-6mm in length was placed on the duct. Careful dissection was done and the stone was extirpated. Then the exposed duct wall was sutured to the adjacent mucosa, thus performing the procedure of sialodochoplasty [Figure 3 & 4]. Postoperative recovery was uneventful and the patient was recalled after seven days for review. The wound healing and salivary flow were normal and patient was relieved of all symptoms.



Fig 1: Intraoral lesion showing soft and elevated swelling in the left side of the floor of the mouth.



Fig 2: Occlusal radiograph showing a radiopaque and cylindrical mass near left side of the floor of mouth.



Fig 3: Extirpation of sialolith via transoral approach.



Fig 4: Tooth shaped sialolith.

3. Discussion

According to Harrison *et al.* sialadenitis is the initial cause of the occurrence of this pathology and the duration of this inflammatory condition is an important factor in formation of the nucleus for the sialolith^[4]. As compared to the parotid gland the reason for the increased incidence of sialolith in submandibular ducts are the diameter of the duct, the flow of saliva against gravity, the pH of the saliva which is more alkaline, the concentration of mucin proteins, and the calcium and phosphate contents all contribute to the formation of the stone like pathology in the duct.

The anatomical structure of the duct is also attributed as one of the responsible factors for the development of the sialolith. A study by Marchal *et al.* states observations that a sphincter like system exists in the first three centimeters of the Wharton's duct. This variation in the structure could be also responsible for retrograde slippage of oral materials which later form a nidus^[5].

Whatever the size or the location of the sialolith, the treatment objective should be to relieve the patient of symptoms, restore normal flow of saliva and prevent any stricture of the duct post operatively. In cases of small calculi, treatment modalities like shockwave lithotripsy can be considered^[6]. Other modes of treatment also include laser sialolithectomy, interventional sialoendoscopy, but these being blind procedures, the extent of injury to other structure is not clear. Therefore whenever the stone is large and can be palpated and located the surgical removal under direct visualization can be the safest technique. In cases of long standing sialolithiasis the gland may undergo atrophic changes^[7]. But studies have shown that after six months the gland has shown normal flow of saliva indicating the recovery of complete function.

In the present case, transoral sialolithotomy with sialodochoplasty was performed and the patient was relieved of pain and there was a restoration of normal flow of saliva with no complications.

4. References

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