

Abscess Associated with Sialolith in a Parotid Duct - A Case Report

Augusto Cesar Sette Dias¹, Halysson Fernandes de Souto², Jéssica de Freitas Tavares³, Vladimir Reimar Augusto de Souza Noronha¹

¹Department of Oral and Maxillofacial Surgery, Newton Paiva University Center, ²Department of Oral and Maxillofacial Surgery, Pontifícia Universidade Católica de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil, ³Student, Newton Paiva University Center, Belo Horizonte, Minas Gerais, Brazil

Abstract

Rationale: The aim of this work is to describe the case of a large abscess associated with a sialolith in the parotid duct. **Patient Concerns:** Patient's concern is evident in this pathology, because infection untreated or rapidly spreading infections can be potentially life-threatening secondary to airway compromise or septicemia. **Diagnosis:** Clinical examination, ultrasonography of the region, and cone beam computed tomography were requested to confirm the diagnosis of a sialolith associated with a large abscess. **Treatment:** Antibiotic therapy with extraoral drainage was performed. After remission of the infection, the stone was located, removed, and the edges sutured. **Outcomes:** The patient was followed for 6 months. There was a minimal scar without any other noteworthy change. **Take-away Lessons:** The pathological changes involving the salivary glands are extremely important for diagnosis and treatment plan.

Keywords: Abscess, salivary gland stones, sialolithiasis

INTRODUCTION

Salivary calculus, or sialolith, is a calcified structure that develops inside the salivary glands or in their ducts. It is a relatively common disease occurring in 0.1%–1% of the population. Symptoms of sialolithiasis vary according to the size of the salivary gland.^[1]

Diagnosis of a sialolith is made by clinical examination and complementary tests, such as radiography, computed tomography, ultrasound, sialography, magnetic resonance imaging, and scintigraphy. The calculus is presented as an elongated or ovoid radiopaque mass.^[2]

Concomitant infectious processes are uncommon, usually chronic processes, they are known as sialadenitis. In addition, this may present as only acute or chronic periductal inflammation.^[3] The aim of this work is to describe a rare case of a large abscess associated with a sialolith in the parotid duct.

CASE REPORT

A 58-year-old male patient was referred by a doctor to the dental office, presenting with a woody edema that affected the right side of the hemiface, with accompanying reddish colour and painful symptoms, which started 1 week ago. The patient did not have any other illness or any medically compromised disease.

On clinical examination, the region was hyperthermal and without a fluctuant point [Figure 1a]. During palpation, the presence of the salivary calculus was evident. When milking the parotid gland to stimulate salivation, a purulent secretion was observed [Figure 1b]. Ultrasonography of the region and cone beam computed tomography were requested to confirm the diagnosis [Figure 2a-d].

Stimulating mouthwash therapy, associated with the milking movements of the gland, was used to exteriorize the stone. However, the infection did not improve and the patient's medication was changed to amoxicillin trihydrate and potassium clavulanate 875 mg, with one tablet taken every 12 h.

After 4 days of follow-up, it was possible to observe a change in the texture of the site, which started to show a fluctuation

Address for correspondence: Prof. Augusto Cesar Sette Dias, Department of Oral and Maxillofacial Surgery, Sala dos Professores, Newton Paiva University Center, Avenida Silva Lobo, 1730 – Nova Granada, Belo Horizonte, Minas Gerais, Postal code: 30431-26 Brazil. E-mail: settedias_ac@yahoo.com.br

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point. The patient was instructed to perform external heat compresses. After 3 more days, extraoral drainage was performed with subsequent placement of a Penrose drain [Figure 3a and b]. A large amount of bloody, purulent fluid was observed during the drainage. The surgical site was divulsed and the salivary calculus was not found. The drain was left in place for 2 weeks. The dressing was changed every 2 days, and rifocin and iodine were applied externally to the region. The drain was removed and the surgical site was divulsed a second time, allowing for identification of the salivary calculus and subsequent removal. The edges of the site were sutured, and the patient was monitored until completely healed [Figure 3c]. Throughout this process, the patient's blood samples were tested in the laboratory on alternate days, and the patient took the prescribed medication.



Figure 1: Clinical examination (a) extraoral and (b) intraoral



Figure 3: (a) Extraoral drainage, (b) Penrose drain, (c) sutured surgical site

The patient was followed for 6 months [Figure 4], with a minimal scarring and no noteworthy change.

DISCUSSION

According to Pachisia *et al.*,^[2] the most common disease of the salivary gland is salivary stone, or sialolithiasis, which primarily obstructs the salivary ducts. Fusconi *et al.*^[1] report that duct obstruction can occur due to trauma, infections, or presence of foreign bodies. In this report, no predisposing factor that could contribute to the emergence of the process was observed. The frequency of calcification in the parotid gland (5%–20%) is much lower than in the submandibular (80%–90%).^[2,4,5]

In the reported case, the calcification was 8 mm and caused total obstruction of the duct. The symptoms in these cases include pain, swelling of the gland, and xerostomia. The diagnosis is made clinically and by complementary examination, so the full description of anamnesis and a careful clinical examination are essential for efficient treatment.^[6] In the case

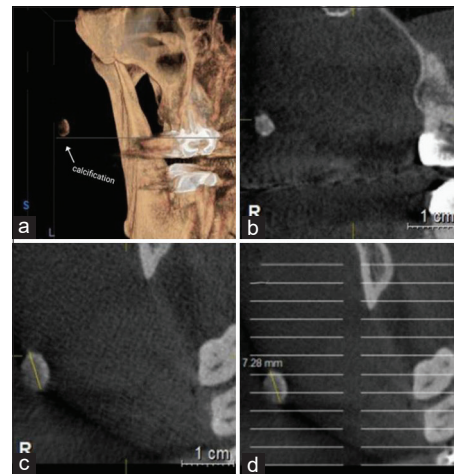


Figure 2: Cone beam computed tomography (a) three-dimensional reconstruction, (b) coronal cut, (c) axial cut, (d) axial cut showing the exact calculation thickness of 7.28 mm



Figure 4: (a) Follow-up after 6 months showing complete resolution of the infection (b) with minimal scarring

presented here, it was possible to detect the calcification in the clinical examination, which allowed its association in the etiopathogenesis of the infectious process.

The most common complementary examination is conventional radiography of various types of incidences.^[2] The use of computed tomography has recently increased in dentistry practice and can also be an examination of choice in these cases. It is possible to identify salivary stones that are at the beginning of the calcification process and do not appear on radiography. Moreover, it has become less invasive and requires lower amounts of radiation exposure.^[7] Ultrasonography is also used and is very effective for the diagnosis of salivary calculi.^[4]

According to Pachisia *et al.*,^[2] the types of treatments vary according to the case. Smaller calcifications may only require salivary stimulation, massage, or use of acidic substances and can be expelled spontaneously. Larger calcifications may require surgical intervention, usually requiring intraoral access for removal. Other techniques for sialolith removal, such as shock wave lithotripsy, radiographically-guided removal, and salivary gland endoscopy, have been demonstrated to be effective and have low morbidity.

The total removal of the salivary gland is performed when the calcification is intraglandular and >12 mm in size.^[5] Shamim and Renjini^[4] show that in cases with abscesses, antibiotic therapy is necessary in addition to salivary stimulation and surgical drainage. In our case shows an unusual abscess in the parotid region, uncommon by dimension and acute and fast evolution features. In these cases were necessary extraoral drainage, owing to large abscess, combined administration of high-dose antibiotics. It is fundamental to perform drainage to avoid spread of the infectious process into deeper and potentially dangerous spaces. Extraoral drainage was performed to obtain a controlled point of purulent discharge, thus avoiding a scar generated by spontaneous drainage. Extraoral access was performed by localization of sialolith and preexisting access. Medical management is based primarily on the administration of high doses of bacteriocidal antibiotics that aim to eliminate the organisms that are probably causing the infection untreated or rapidly spreading infections can be potentially life-threatening secondary to airway compromise or septicemia.^[8] The spread of orofacial infection is sometimes rapid and is even a criterion for hospitalization; sometimes, it happens in patients without any systemic changes as required in the work of de Camargos *et al.* 2012.^[9] However, in this case, laboratory culture and antimicrobial susceptibility were not collected. In this case empirical antibiotic selection is acceptable, if the choice is based on scientific data and contemporary experience with constantly evolving microbiota of orofacial infections.^[10] In addition, to assess the patient's condition, blood samples were tested; it is in accordance with Han *et al.*^[11] that blood cell count and temperature were important indicators for the severity of infection.

Differential diagnosis must be made, since the swelling in this region of the gland is characteristic of other changes, such as

Sjogren's syndrome, salivary gland neoplasms, glandular cysts, or odontogenic infections.^[12]

CONCLUSION

Knowledge of the pathological changes involving the salivary glands is extremely important in cases like this where the diagnosis of sialolithiasis was essential to direct the treatment plan for sialadenitis. A large abscess associated with a sialolith in the parotid duct is a rare complication. Nevertheless, clinical examinations and anamnesis are essential, and the prognosis is favorable in cases where intervention is rapid.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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