

Bilateral Submandibular Sialolithiasis: A Case Report

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Abstract

Case Report

Introduction: Lithiasis is the most common salivary disease in adults. Most salivary stones (80% to 95%) produces in the submandibular gland, 5% to 20% in the parotid gland, while the sublingual gland and minor salivary glands account for no more than 2%. Isolated involvement of one gland is usual. Simultaneous lithiasis of both submandibular glands is less frequent. The objective of this study is to report our experience in the treatment of lithiasis of the bilateral submandibular gland. **Observation:** Mr. K. M, 68 years old, chronic smoking, consulted in emergency November 2023 at the Mohammed VI Oujda University Hospital, for bilateral submandibular swelling. This swelling has been developing for 10 years and increased in size during meals. The current history dates back to 1 month ago with the increase in the right submandibular mass associated with dysphagia. The clinical examination revealed a right and left submandibular swelling, presence of right inflammatory signs: warm mass, painful on palpation, fixed in the deep plane, with expression of pus from the Wharton orifice. Cervical CT scan injected with contrast product was in favor of bilateral sialadenitis on sialolithiasis complicated by submaxillary abscess on the right. Bilateral submandibulectomy with extraction the calculi is done via an external cervical. No post-operative complications were observed and the patient was discharged from the hospital after two days of hospitalization. **Discussion:** The family history of sialolithiasis suggests the search for a genetic or familial origin of bilateral lithiasis of the submandibular glands, if there is not an obvious or probable etiology. **Conclusion:** Bilateral submandibular lithiasis is a rare clinical event but one that must be research for even in cases of isolated submandibular lithiasis. Extraction of the calculation is made by radical submaxillectomy by cervical externally, and the results are satisfactory.

Keywords: Bilateral salivary lithiasis - submandibular gland - diagnosis - treatment.

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INTRODUCTION

Lithiasis is the most common salivary disorder in adults. Salivary stones, also called sialolithiasis, are one of the principal causes of chronic sialadenitis and represent approximately 50% of the principal salivary gland diseases [1].

Sialolithiasis corresponds to the presence of stones in the gland and/or salivary ducts. It is a pathology that affects 1% of the population, and in 80% to 85% of cases, the stones are located in the submandibular gland [2].

Lithiasis most frequently affects a single salivary gland and there is no left or right predominance [3]. Simultaneous lithiasis of both submandibular glands is rare [3]. She must have a genetic or family origin to research.

The objective was to describe, based on the observation the diagnostic and therapeutic characteristics of bilateral submandibular lithiasis.

CASE REPORT

Mr. K. M, 68 years old, chronic smoking, consulted in emergency November 2023 at the Mohammed VI Oujda University Hospital, for bilateral submandibular swelling. This swelling has been developing for 10 years and increased in size during meals.

The current history dates back to 1 month ago with the increase in the right submandibular mass associated with dysphagia.

Clinical examination revealed a right submandibular swelling of 4 cm and a left submandibular swelling of 2 cm (Figure 1), presence of signs of inflammation on the right: warm mass, painful on

palpation, fixed at the deep plane, bidigital palpation found the gland with submandibular ducts slightly increased in volume but separated from the internal face of the mandible, with expression of pus from the Wharton orifice. The left submandibular osium were permeable (Figure 2). Examination of the right and left parotid regions were normal.

Cervical CT scan with injection of contrast product suggested bilateral sialadenitis due to sialolithiasis complicated by submaxillary abscess on the right (Figure 3).

Swollen submaxillary glands on the right 36*25mm and on the left 34*23mm, with irregular contours, containing intraglandular stones and at the Wharton's canal on the right, with thickened and enhancing after injection of the contrast product, they exert a mass effect on the para-tonsillar region bilaterally and on the base of the tongue.

Patient received medical treatment based on 3rd generation cephalosporin antibiotics (triaxon 2g / day) and metronidazole (Flagyl 500mg 3 times / day) before the surgical procedure.

The treatment consisted of radical bilateral submaxillectomy, under general anesthesia (Figure 4).

The gland was sent to the anatomopathology laboratory. Excision of the left submandibular gland was carried out using the same technique (Figure 5).

No postoperative complications were observed and the patient was discharged from the hospital after two days of hospitalization.

The anatomopathological examination of the surgical specimens carried out confirmed the chronic inflammatory nature of the submaxillitis.



Figure 1: Right submandibular swelling of 4cm and left of 2cm

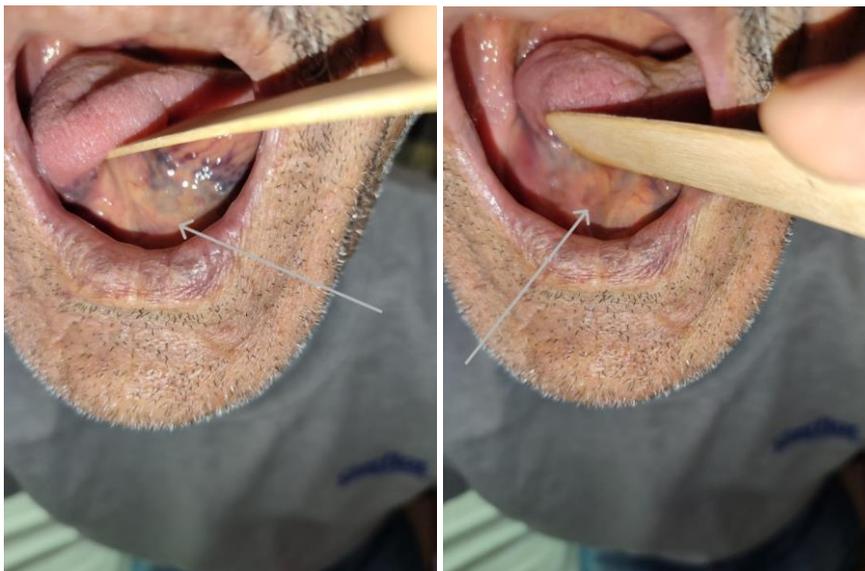


Figure 2: Oral examination showing the expression of pus at the the right Wharton's canal orifice and the permeable left orifice

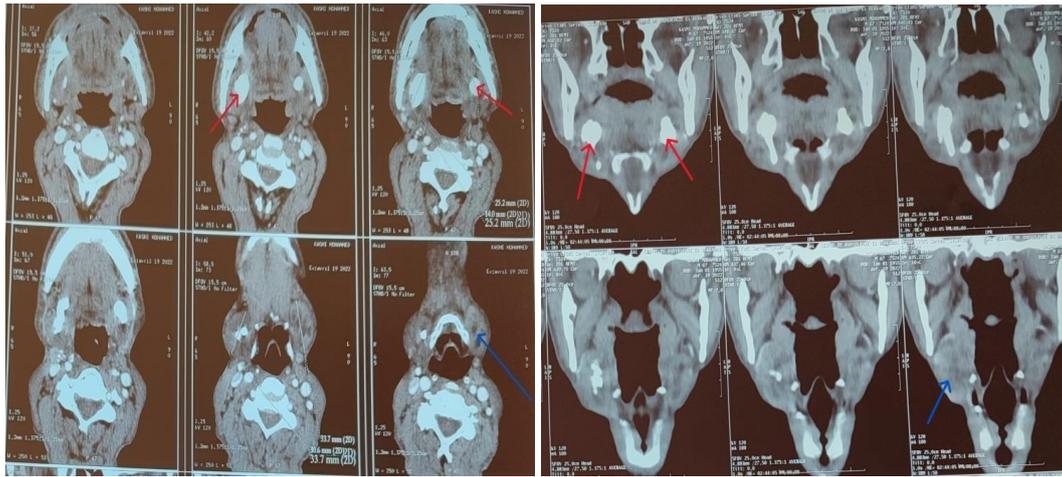


Figure 3: Cervical CT scan in parenchymal window axial and coronal section with injection of contrast product was in favor of bilateral sialadenitis due to sialolithiasis (red arrow) complicated by submaxillary abscesses on the right (blue arrow)

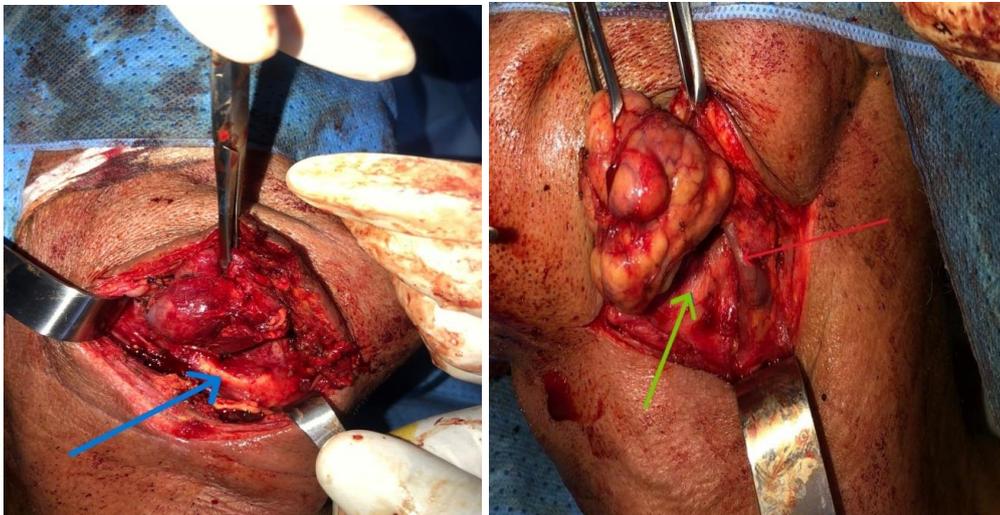


Figure 4: Radical bilateral submaxillectomy, blue arrow (posterior digastric muscle) red arrow (facial vein) green arrow (hypogloss XII nerve)



Figure 5: The right and left submandibulectomy with intraglandular extraction stones

DISCUSSION

Salivary stones develop following the deposition of mineral salts around a nest of bacteria, mucus or desquamated cells. Salivary stagnation, increased alkalinity of saliva, increased calcium content of saliva predispose to the occurrence of lithiasis. Similarly, infection or inflammation of the submandibular duct or salivary gland and physical trauma to the duct or salivary gland can lead to the formation of lithiasis [4].

In the literature, submandibular lithiasis is the most common of salivary lithiasis in a proportion of 80 to 85% [2]. This higher frequency of sub-mandibular localization of salivary lithiasis could be explained by anatomical factors (the ascending path of Wharton's canal, this relatively large canal and a small terminal orifice) and biological factors (quality of saliva, which has a basic pH and higher viscosity than parotid saliva) [5].

Lithiasis of many organs is generally due to disorders of calcium metabolism, hyperparathyroidism or hypovitaminosis D and in these conditions the stones are composed of calcium [6]. There are familial lithiasis without demonstrated genetic transmission, which probably result from common eating habits within the same family [6].

The male sex is generally more affected as highlighted by several authors [7, 8]. The average time for development of stone submandibular was long, exceeding 3 years, which reflects a delay in consultation [9], could be explained by the benign nature of these conditions, the slowly progressive formation of stones and swelling of the gland, most often painless.

The diagnosis of submandibular lithiasis is easy due to the simple and obvious clinical characteristics. The symptoms of bilateral lithiasis are identical to those of unilateral lithiasis, however the signs are bilateral. Common symptoms vary from painless swelling, moderate discomfort to severe pain with significant glandular swelling accompanied by trismus and usually punctuated by eating [10].

Imaging identify and localize salivary stones, and confirming the diagnosis [11]. The panoramic dental x-ray requested in $\frac{3}{4}$ of cases; made it possible to objectify the radiopaque calculation. Ultrasound identify the diagnosis of radiolucent lithiasis in $\frac{1}{4}$ of the cases. These two exams are easy to perform, inexpensive, and very accessible. CT scanning is of interest only when there is diagnostic doubt with a tumor of the submandibular gland [12] as in our series.

Sialoliths smaller than 3 mm may not be detected during ultrasound examination [10]. Digital sialography and subtraction sialography have increased

the sensitivity and specificity of the conventional sialographic technique.

The treatment of salivary lithiasis consists of excision of the stone with or without the gland concerned; after resolution of the infection or inflammation with medical treatment [12].

Uue bilateral submandibulectomy with anatomopathology examination. The presence of microlithiasis would justify treatment by sialadenoscopy [10]. Lithotripsy could possibly be used in cases of large sialoliths [13]. This is an organ pathology, excision of the responsible stone(s) does not prevent frequent recurrences. Surgical submandibulectomy is therefore sooner or later frequently indicated.

The complications frequently found, cases of hemorrhage and transient paresis of the mental branch of the facial, Very serious complications such as paralysis of the lingual nerve and the hypoglossal nerve were reported by Thiam in Senegal [9], generally The result postoperative was generally satisfactory.

CONCLUSION

Bilateral submandibular lithiasis is a rare clinical disease but one that must be research for in the event of any suspicion of submandibular lithiasis.

The treatment consisted of bilateral submandibulectomy with anatomopathology examination of the surgical specimen.

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