Case Report

The Silent Giant: A Case of Giant Submandibular Sialolithiasis with Minimal Symptoms

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ABSTRACT: Background: Sialolithiasis is a common condition affecting the salivary glands, typically presenting with pain and swelling, typically during meals. giant sialoliths (>15mm) are rare and usually symptomatic, often requiring surgical intervention. Case Presentation: We report the case of a patient who remained completely asymptomatic despite harbouring a 35 x 20mm ovoidal sialolith in the submandibular gland. the patient presented to the emergency department with sudden onset of submandibular pain during the night prior to admission. Clinical examination and imaging confirmed the presence of a large, well-defined, spherical calculus. Remarkably, the stone was manually removed by an otolaryngologist without the need of surgical intervention or anaesthesia. Discussion: This case is notable for the unusually large size and spherical shape of the sialolith, the absence of prior symptoms, and the successful non-surgical removal. such presentations are extremely rare and highlight the importance of considering sialolithiasis even in atypical clinical scenarios. Conclusion: This case contributes to the limited literature on asymptomatic giant sialoliths and supports the feasibility of non-invasive management in select cases.

KEYWORDS: *Acute suppurative sialadenitis, giant sialolithiasis, pharyngodynia, submandibular gland.*

Introduction

Sialolithiasis is a relatively common condition of the salivary glands, accounting for more than 50% of all major salivary gland diseases.

It is characterized by the formation of calcified structures (sialoliths) within the ductal system or parenchyma of the salivary glands [1].

The submandibular gland is the most frequently affected site, involved in approximately 80-95% of cases, due to its anatomical and physiological predispositions [2].

These include the upward course of Wharton's duct, the viscous nature of its saliva, and its higher calcium and phosphate content compared to other glands [3-5].

From a clinical standpoint, sialolithiasis typically presents with recurrent pain and swelling of the affected gland, especially during meals, when salivary flow increases [1].

Most stones are small, ranging from 1 to 10mm in diameter, and are often diagnosed during symptomatic episodes. Stones larger than 15mm are classified as "giant sialoliths" and are considered rare (see Table 1) [1-3].

Table 1. Classification of sialolith based on size.

Category	Size Range (mm)
Micro	<2mm
Small	2-5mm
Medium	6-10mm
Large	11-15mm
Giant	>15mm

These are usually associated with chronic symptoms, recurrent infections, and often require surgical removal, either via intraoral incision, sialendoscopy, or gland excision.

Asymptomatic cases of giant sialoliths are exceedingly rare, and spontaneous or manual expulsion without surgical intervention is even more uncommon.

The literature contains only a limited number of such reports, making each case valuable for expanding our understanding of the natural history and management options for this condition [4-11].

In this report, we describe the unusual case of a 35 x 20mm ovoidal submandibular sialolith in a patient who remained asymptomatic until the night prior to presentation, when he experienced sudden submandibular pain.

Remarkably, the stone was manually removed by an otolaryngologist (ENT) without referring the patient to surgery.

This case highlights the importance of considering sialolithiasis even in the absence of classic symptoms and supports the potential for conservative management in selected cases.

Case Presentation

A 55-year-old male with no significant past medical history and no ongoing home medications presented to the emergency department (ED) with a recent onset of sore throat that began the previous evening.

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By the following morning, he developed noticeable swelling in the left submandibular region, accompanied by dysphagia.

He denied any systemic symptoms apart from a mild increase of body temperature, with a maximum of 37.3°C.

The patient's general physical examination was negative.

However, inspection and palpation of the submandibular area revealed a firm, tender swelling in the left side of the gland.

There was associated latero-cervical lymphadenopathy on the same side.

Oropharyngeal examination showed bilateral tonsillar hyperaemia without exudates.

No trismus or signs of upper airway abnormalities were noted.

Laboratory tests showed a mild leucocytosis (13500/mm^3 white blood cells) and a moderate increase in C-reactive protein levels (4.7mg/dl, n.v.<0.5).

Given the localized swelling and tenderness, an ear-nose-throat (ENT) consultation was requested.

The ENT specialist performed a focused examination and identified a large, palpable mass in the left submandibular region.

The clinical evaluation and subsequent macroscopic examination confirmed the presence of a giant salivary stone.

Its dimensions, measured with a surgical caliber immediately following extraction, were approximately 35 × 20mm (see Figure 1).

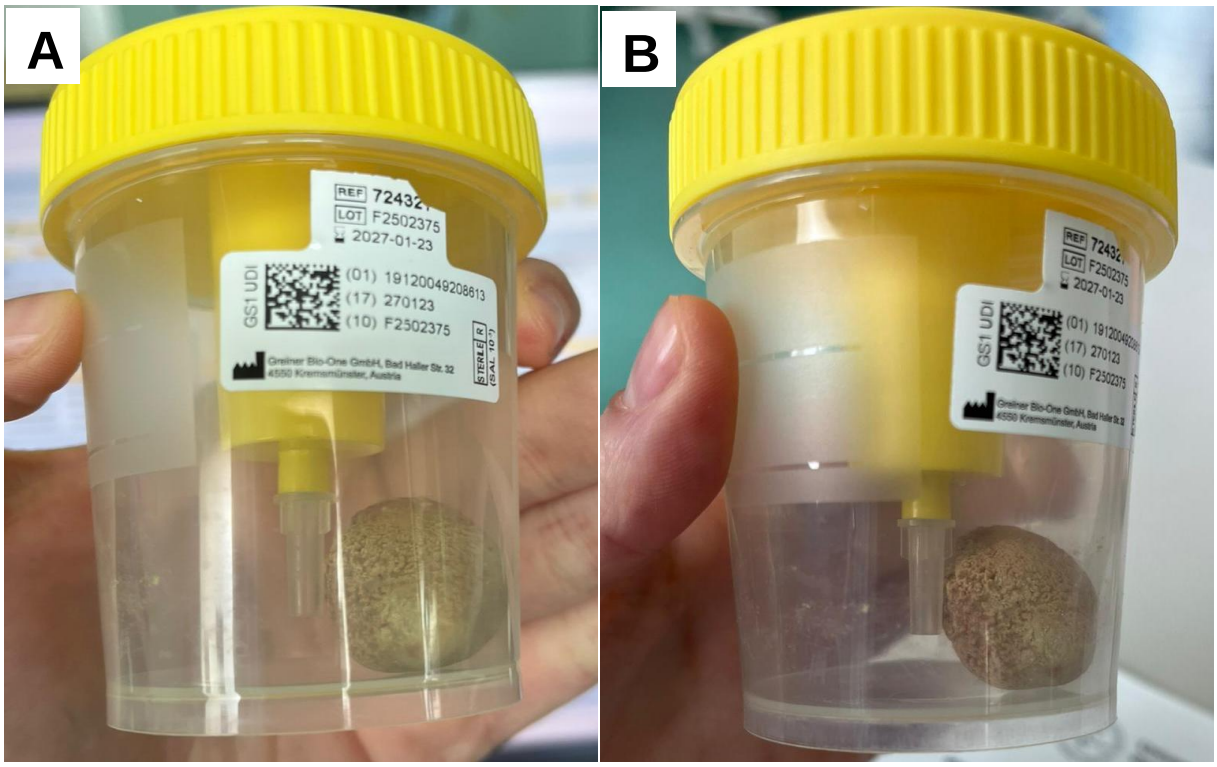

Figure 1. Macroscopic appearance of the ovoidal submandibular sialolith (35 x 20mm) after manual expulsion (A, B). Note: The specimen is shown inside a standardized 100ml collection container (Greiner Bio-One, REF 724321), which served as an internal size reference. Final dimensions were confirmed via manual caliber measurement prior to storage.

Under local anaesthesia with mepivacaine, the stone was manually expelled, resulting in the drainage of purulent material, consistent with an acute suppurative process.

The final diagnosis was acute suppurative submandibular sialadenitis secondary to giant sialolithiasis.

Despite the considerable size of the stone, the patient had remained nearly asymptomatic until the acute episode.

Following the procedure, the patient experienced immediate relief of pressure and discomfort.

He was prescribed clarithromycin 500mg twice daily for 7 days and discharged home in stable condition with good symptom control.

Discussion

Sialolithiasis is the most common non-neoplastic disease of the salivary glands, accounting for up to 80-95% of cases involving the submandibular gland [1].

This high prevalence is attributed to several factors, i.e. anatomically the submandibular duct (Wharton's duct) is long and tortuous and has an upward course against gravity; physiologically, it transports more viscous, alkaline saliva with high concentration of calcium and phosphate [1,3-5].

Taken together these conditions favor the precipitation of mineral salts and the formation of calculi [1].

Most sialoliths are small, measuring between 1 and 10mm, and present with classic symptoms such as pain and swelling, particularly during meals. Stones larger than 15mm are classified as "giant sialoliths" and are rare.

Their presence is typically associated with chronic or recurrent symptoms, including sialadenitis, ductal obstruction, and in some cases, abscess formation.

In the literature, giant sialoliths are often removed surgically, either via intraoral incision, sialendoscopy, or gland excision, depending on their size, location, and associated complications [1-3].

The present case is exceptional for several reasons.

First, the patient remained completely asymptomatic until the night before presentation, despite harboring a 35 x 20mm sialolith.

The reported dimensions were verified using a surgical caliber; furthermore, the proportions of the specimen shown in the clinical pictures were consistent with the standardized dimensions of the 100ml collection container used for transport.

This is highly unusual, as stones of this size typically cause progressive symptoms over time.

The absence of symptoms may be explained by the stone's spherical shape and its likely position within a dilated segment of Wharton's duct, which may have allowed partial salivary flow and prevented complete obstruction.

This hypothesis is supported by similar reports showing that the shape and location of the stone influenced the clinical presentation.

Secondly, the stone was removed manually by an otolaryngologist without the need of surgical intervention or sialendoscopy.

This is particularly noteworthy as most giant sialoliths require invasive approaches.

In a case reported by Vasanthika et al., a 4.5cm stone was removed under general anaesthesia due to its size and impaction [12].

In contrast, the spontaneous or facilitated expulsion of a giant sialolith, as in our case, is extremely rare and highlights the potential for conservative management in selected patients.

The literature suggests that factors favouring non-surgical removal include the stone's mobility, superficial location near the ductal orifice, and the absence of surrounding inflammation or fibrosis [4-11].

In our case, the stone's spherical morphology may have facilitated its mobilization through the duct, while the acute onset of pain may have been due to a transient obstruction or shift in position that finally prompted the patient to seek medical attention.

This case also underscores the importance of maintaining a high index of suspicion for sialolithiasis, even in patients without a history of recurrent symptoms.

Imaging modalities such as ultrasound, plain radiography, and computed tomography (CT) remain essential tools for diagnosis and treatment planning [1,13].

CT is highly sensitive in detecting radiopaque stones and assessing their exact size and location [13].

From a clinical perspective, this case contributes to the limited body of literature on asymptomatic giant sialoliths and supports the feasibility of non-invasive management in carefully selected patients [1].

It also raises questions about the natural history of such stones, how long they may remain silent, what factors trigger their migration or symptom onset, and whether early detection through incidental imaging could alter management strategies.

Further documentation of similar cases is warranted to better understand the spectrum of presentations and to refine treatment algorithms.

While surgical removal remains the standard for most giant sialoliths, this case illustrates that conservative approaches may be applicable in specific scenarios, potentially reducing patient morbidity and healthcare costs [13].

Conclusion

Giant sialoliths are rare entities that typically present with chronic symptoms and often necessitate surgical intervention.

The case presented here is exceptional due to the combination of a large, ovoidal 35 x 20mm submandibular sialolith, the absence of prior symptoms, and its successful non-surgical removal.

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This unusual presentation challenges the conventional understanding of the clinical course of sialolithiasis and suggests that, under certain anatomical and clinical conditions, conservative management may be both feasible and effective.

This case underscores the importance of individualized assessment in the management of salivary gland calculi and highlights the need for clinicians to remain open to non-invasive approaches when appropriate.

Further documentation and analysis of similar cases may help refine diagnostic and therapeutic strategies, ultimately contributing to more personalized and less invasive care for patients with salivary gland stones.

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None to declare.

Author Contributions

G.F.M., and M.G. designed the project and wrote the paper. F.L., M.D.S., and M.G. searched the literature for retrievable papers. R.D.G. critically reviewed the paper. All authors have read and agreed to the published version of the manuscript.

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Conflicts of interest

The authors declare no competing interests.

Institutional Review Board

Not applicable.

Consent Statement

The patient provided a written informed consent prior to participation, including the consent of publishing his/her anonymized data.

Data availability

No dataset has been generated for this manuscript.

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