

ATYPICAL PRESENTATION AND MANAGEMENT OF GIANT TONSILLOLITH: A CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

This report details a unique case of a 53-year-old patient presenting with dysphagia, odynophagia, and trismus in "Sf. Apostol Andrei" County Emergency Clinical Hospital Constanta, Romania. Examination revealed a large mass within the left tonsil, prompting a differential diagnosis encompassing malignancy, abscess, and foreign body. Radiological evaluation proved challenging, as the mass mimicked a tumor on initial studies. Ultimately, CT scan confirmed the presence of a giant tonsillolith measuring an exceptional 51/23/31mm - exceeding the largest previously documented case (4.2 cm).

Surgical excision under local anesthesia successfully removed the tonsillolith. This case underscores the importance of considering giant tonsilloliths in the differential diagnosis of oropharyngeal dysphagia, particularly in patients with suboptimal oral hygiene. We further emphasize the potential diagnostic challenges associated with these rare presentations and the crucial role of advanced imaging modalities. A comprehensive review of the literature regarding tonsillolith formation, diagnosis, and management is included.

Keywords: differential diagnosis, CT scan, oral hygiene, dysphagia, tonsillolith

Introduction

The earliest documented account of concretions in the oropharynx is attributed to Lang, who recorded it in the 16th century (1). Although small calcified areas are frequently encountered during routine tonsil examination, the occurrence of a giant tonsillolith is exceptionally rare, with approximately 50 cases reported in the literature (2). While these calculi are primarily composed of calcium carbonate and calcium phosphate, other minerals, including magnesium, sodium, silica, potassium, copper, aluminum, iron, and ammonia radicals, have also been identified (3, 4). Tonsillolithiasis can manifest at any age but

is more prevalent in adults, typically around the 5th decade, with an equal distribution between sexes. Symptoms are typically nonspecific, including sore throat, referred otalgia, foreign body sensation, and halitosis.

Diagnosis may be incidental during routine ENT examinations or radiological studies. Clinically, large calculi present as hard masses within the tonsil, potentially mimicking tumors, foreign bodies or displaced teeth on lateral neck radiographs. CT imaging may reveal nonspecific calcified lesions in the tonsillar region.

Treatment primarily involves surgical removal of the stone. Tonsillectomy may be warranted if the calculi are deeply embedded

within the tonsillar tissue or are associated with chronic tonsillitis (5).

Case Presentation

A 53-year-old male patient presents to our emergency department in “Sf. Apostol Andrei” County Emergency Clinical Hospital Constanta, Romania with dysphagia, odynophagia, and mild to moderate trismus.

Throat examination unveiled a sizable mass, devoid of mucosal ulceration, characterized by a firm consistency, protruding through the left tonsillar fossa and the palate, resembling either an oropharyngeal tumor or a peritonsillar abscess, poor dental hygiene, halitosis, multiple missing teeth and dental caries, normal-looking mucosa, without other pathological aspects. (Figure1)

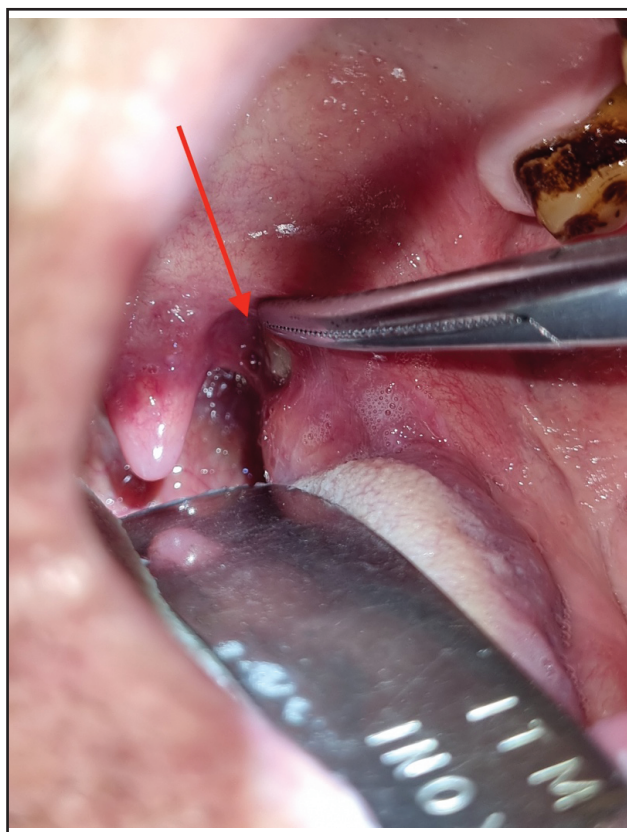


Figure 1 Buco-pharyngoscopy - Mass with firm consistency, protruding through the left tonsillar fossa and the palate, resembling either an oropharyngeal tumor or a peritonsillar abscess, poor dental hygiene, halitosis, multiple missing teeth and dental caries, normal-looking mucosa, without other pathological aspects

The swelling led to symptoms of dysphagia, a sensation of a foreign body, and “hot potato” voice, with dysphagia progressively worsening

over the six months up to total dysphagia for one month, preceding clinical evaluation. No palpable neck lymphadenopathy was observed. Hematological investigations yielded results within normal parameters. Upon fiberoptic examination, no pathological elements were observed. Bilateral pulmonary tuberculosis sequelae are visualized on chest X-ray examination. A swab was obtained from the tonsillar area, but no bacterial or fungal colonies were detected. The ensemble of nonspecific results directed us towards a CT examination.

Subsequently, a computed tomography (CT) scan of the oropharynx was conducted, and slices revealed a calcified cylindrical lesion located in the left palatine tonsil which appeared enlarged, with an increased projection area, exhibiting a heterogeneous structure due to the presence of pseudonodular formations with calcified densities, with maximum diameters approximately 51/23/31mm, the latter appearing to extend apparently beneath the left submandibular region. (Figures 2-5)

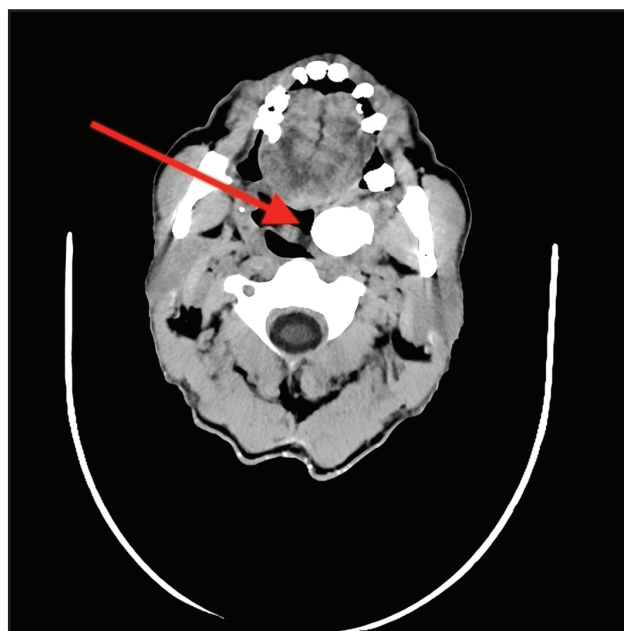


Figure 2 Axial CT image slice revealing the cylindrical calcified lesion located in the left tonsil with pseudonodular formations.

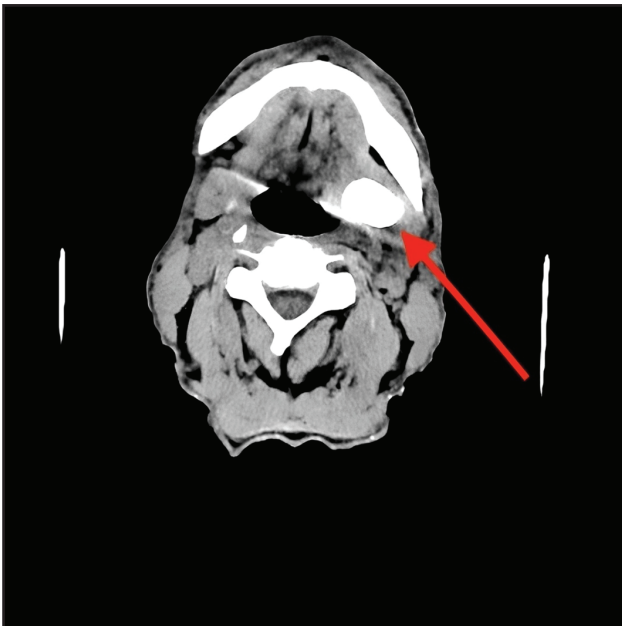


Figure 3 Axial CT scan slice revealing the cylindrical calcified lesion located in the left tonsil with extent to the left submandibular region.

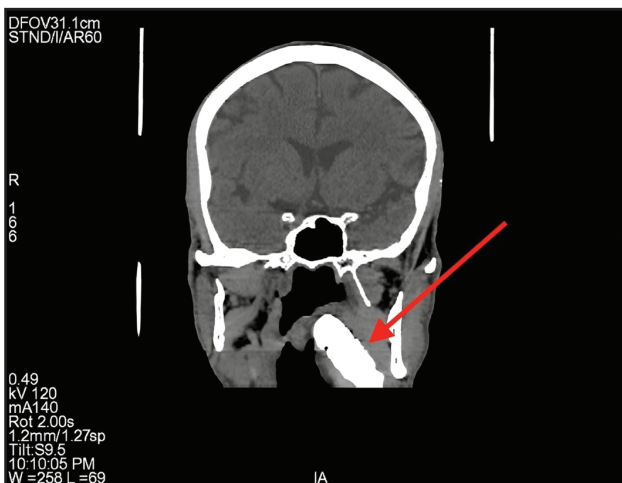


Figure 4 Sagittal CT scan slice illustrating the extent of the tonsillolith and its projection beneath the left submandibular region.

After the CT scan the diagnosis was clear, a giant tonsillolith, excluding a tumoral pathology or a tonsillar abscess. The decision to surgically remove it under local anesthesia. Due to the considerable size of the tonsillolith, it was extracted in three distinct segments by widening the initial incision. There were no postoperative complications and no significant bleeding occurred. (Figure 6)

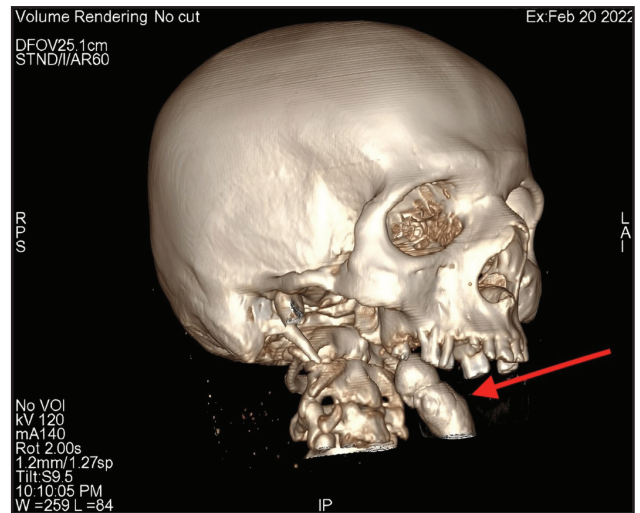


Figure 5 3D reconstructed CT images depicting the calcified lesion's heterogeneous nature and its proximity to surrounding anatomical structures.



Figure 6 Postoperative image showing the three distinct segments of the extracted tonsillolith after surgical removal

Discussion

Tonsilloliths, also known as tonsil stones, are accumulations of different sizes and textures that form within the crypts of the palatine tonsils or in their vicinity. While large tonsilloliths are

relatively rare, small concretions are frequently encountered in tonsillectomy specimens.

The age range of patients documented in the literature with tonsilloliths varied from 10 to 77 years (mean age of 50 years, 49.7 for males and 50.5 for females), with a male-to-female ratio of 1:1 (2).

Detecting large tonsillar concretions can pose challenges, as they may mimic other anatomical and pathological structures of the pharyngeal region, particularly on routine panoramic or lateral head radiographs. Indeed, various other factors can contribute to oropharyngeal radiopacity, including an elongated styloid process, an enlarged maxillary tuberosity, arterial calcifications, lymph nodes, and salivary gland calcifications, phleboliths, a prominent pterygoid hamulus, foreign bodies, and abnormalities of the mandibular rami.

The differential diagnosis should encompass considerations such as neoplasia (characterized by solid, immobile, and frequently painful masses), peritonsillar abscess, foreign bodies, ectopic bone or cartilage, enlarged lymph nodes, calcification of the stylohyoid ligament associated with Eagle's syndrome, tonsil hypertrophy, and granulomatous complications. To establish a definitive diagnosis, a thorough clinical examination, imaging studies, and histological investigation are imperative.

The management of tonsilloliths is determined by factors such as their size, symptoms, and informed patient consultation. Small tonsilloliths located within tonsillar crypts may necessitate nothing more than patient reassurance and can often be manually expressed from the tonsillar crypt. For larger tonsilloliths, removal may be required through curettage under topical or local anesthesia infiltration. In cases involving giant tonsilloliths, as illustrated in this case report, or large calculi associated with recurrent tonsillitis, or when malignancy is suspected, surgical excision becomes necessary.

According to the literature review, the largest recorded tonsillolith was identified in the left tonsil of a 12- year-old female child, measuring 4.2 × 3.6 × 2.1 cm. (6). To date, there have been no documented cases of giant tonsilloliths by this size reported (51/23/31mm) (7-12).

Table 1 Cases with Giant Tonsillolith in literature, F: female, M: male, Size in millimeters

Serial	Authors/Year/ Reference number	Patient Age	Sex	Size of Tonsillolith
1	Thakur et al./2008/(6)	12	F	42x36x21mm
2	Alfayez et al./2018/(7)	45	M	31x23mm
3	Dykes et al./2012/(8)	17	F	18x24x26mm
4	Gangaraj et al./2013/ (9)	56	F	20x15mm
5	Priyanka et al./2019/ (10)	18	F	22x19x16mm
6	Kulkarni et al./2018/ (11)	22	M	18x18mm
7	Pavan et al./2024/(12)	60	F	20x17mm
8	Silvestre-Donat FJ et al./2005/(5)	55	F	25x15mm
9	Neha Salaria et al./2016/(13)	35	F	26x25x23mm

The uniqueness of the case, besides the size of the tonsil stone, is the fact that usually such a big tonsillolith would form in a patient with repeated episodes of acute tonsillitis (2), but the patient presented in this case denied any history of acute throat infections.

The most likely cause of the patient's condition was poor oral hygiene, as evident during the clinical examination, which likely contributed to the progression.

Conclusions

In conclusion, the presence of large tonsilloliths as a potential etiology for dysphagia is a relatively rare phenomenon, yet it should not be disregarded. This is particularly pertinent in patients who exhibit suboptimal oral hygiene practices. Furthermore, the compounded issue of limited access to dental care services for various socioeconomic or logistical reasons further underscores the importance of proactive oral health management. Therefore, advocating for comprehensive oral hygiene education and facilitating equitable access to dental care services are crucial steps in addressing and preventing such occurrences, ultimately promoting overall oral health and well-being.

Disclosures

Human subjects: Consent was obtained or

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