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A Self-Dislodged Giant Tonsillolith: A case report and literature reviewYaroko, A.A.¹, Gobir, M.S.², Kirfi, A.M.³

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Abstract

Tonsillolith, otherwise known as calculi of the tonsil is the deposition of calcium crystals in the crypts of the palatine tonsil. Dysphagia, odynophagia and referred otalgia are the characteristic features of large calcification whereas smaller ones are usually asymptomatic. We present a 35 years old male security officer with 2 years history of throat pain with right sided otalgia and 2 days history of self-dislodged stone from the right tonsil.

Keywords: *Tonsillolith, throat pain, otalgia*

Introduction

Tonsillolithiasis is a common phenomenon in all age group but more frequent in adults with mean age of about 50 years than children with no gender discrimination. Incidental findings of small sizes of calcification upon sectioning of the tonsils is common whereas giant tonsillolith is still a rarity as reported in literature (Sohit Kanotra *et al.*, 2008). The composition of the calculi include calcium carbonate and calcium phosphate primarily although other minerals including potassium, copper, magnesium, sodium, iron, ammonia and silica have also been reported (Castellano and Marcolli, 1996; Heppt *et al.*, 1989; Cooper *et al.*, 1983). The mechanism of formation of tonsillolith is believed to be from retained caseous secretions in the tonsillar crypts in combination with filaments of a common oral saprophyte (*leptothrix buccalis*), occasionally in association with chronic purulent tonsillitis. The symptoms of tonsillolith can be challenging and non-specific ranging from dysphagia, odynophagia, halitosis, foreign body sensation in the throat to referred otalgia. The diagnosis is

clinical supported by a lateral radiograph of the neck which shows a radio-opaque mass overlapping the ramus of the mandible which can be mistaken for a foreign body, calcified blood vessel or displaced tooth (Silvestre-Donat *et al.*, 2005). Where facilities are available Computed tomography (CT) scan can be very useful. Surgical removal of the stone or tonsillectomy remained the mainstay of treatment. The stone can spontaneously dislodge where the tonsillar capsule is eroded.

Case Report

A 35 years old male security officer presented with 2 years history of right sided throat pain on swallowing associated with dysphagia and right ear pain and 2 days history of a dislodged stone from the right tonsil (figure 1). The stone was brownish in colour with pitted rough surface measuring about 2.2cm on the longest diameter and about 1.5 cm in height. Upon crushing it revealed a hard crystal (fig. 2). He has been receiving treatment comprising of antibiotics and analgesics from some medical personnel with occasional relieved of symptoms prior to this episode. On oral examination both tonsils appeared normal in size, however the right tonsil and its anterior pillar appeared hyperaemic. Neck examination revealed right jugulodigastric lymph node enlargement measuring about 2 by 3mm. A plain lateral soft tissue X-ray of the neck was requested with no evidence of residual stone. Submandibular salivary glands, kidneys and gall bladder ultrasound examination also revealed no evidence of lithiasis. Serum calcium analysis was insignificant. Patient was treated conservatively and responded well on follow up.

Discussion

Tonsilloliths are calcifications of various consistency and different sizes which are formed in the crypts of the palatine tonsil and its surroundings. It was reported in a review that 69.7% of tonsilloliths are located in the tonsillar tissue, 21.2% in the tonsillar fossa while 9% were found in the palate (Mesoellea *et al.*, 2004). Lingual tonsillolith is rare as only one case has so far been reported in literature (Bando *et al.*, 2003). Lang in 1960 was the first to describe concretions in the oropharynx (Pruet and Duplan, 1987). Tonsilloliths are more common in adults with age range of 10-77 years and the mean of 50 years than children with no gender predilection (Caldas *et al.*, 2007; Mesoellea *et al.*, 2004). Various sizes of tonsillolith does exist with the largest reported in literature measuring 41 by 21 by 19mm (Modrzynski *et al.*, 2001). The calculus of our reported case measured about 22 by 15mm. Stones less than 21mm in largest dimension are asymptomatic which account for 9% of patients with tonsillolith (Mesoellea *et al.*, 2004). Presentation of tonsillolith include dysphagia, odyophagia, swelling in the submaxillary triangle and throat pain. Expression of foul-smelly lumps from the tonsil is among other presentations (Pruet and Duplan, 1987). It is a common finding that tonsilloliths are ipsilateral, as such only three cases of bilaterality have been reported (Mosca *et al.*, 2006). The shape of tonsillolith varies from cylindrical, oval, round, plurilobular or pyramidal and appears as red brown, black, dark grey or grayish yellow hard object (Mesoellea *et al.*, 2004). Tonsillolith can be diagnosed clinically and confirmation made using radiological investigations. Lateral skull x-ray and panoramic radiographs of the mandible are readily available diagnostic modalities which will show a radio-opaque shadow. However, good clinical judgement is required to differentiate tonsillolith from sclerosing osteitis, odontoma, foreign body, fibrous dysplasia, Garre's osteomyelitis, sialolith, calcified lymph node, osteoma, carotid artery arteriosclerosis among several other differentials due to its superimposition on the mandibular ramus (Sezer *et al.*, 2003).

The composition of the bacterial flora in tonsilloliths using scanning electron microscopy and molecular culture dependent methods have been described in literature (Tusuneishi *et al.*, 2006). The anaerobic bacteria detected in

tonsilloliths belong to the genera *Megasphaera*, *Porphyromonas*, *Eubacterium*, *Prevotella*, *Selenomonas Tannerella* and *Fusobacterium*. Halitosis as a symptom of tonsillolith is caused by the volatile Sulphur compounds which are produced by all these anaerobes (Tusuneishi *et al.*, 2006). Stoodley *et al.* (2009) using confocal microscopy were able to demonstrate that tonsilloliths were morphologically similar to dental biofilms, containing corncob structures, filaments, and cocci (Stoodley *et al.*, 2009). By using microelectrodes, they also demonstrated the structure of the microorganisms with oxygen respiration at the outer layer of the tonsilloliths, denitrification toward the middle, and acidification toward the bottom.

The management of tonsillolith ranges from enucleation to tonsillectomy depending on its size, location and severity of symptoms on presentation. Curettage or enucleation under local anaesthesia is usually employed to remove tonsillolith (Mesoellea *et al.*, 2004) for smaller lesions and excision for large lesions whereas tonsillectomy offers definitive therapy in patients with evidence of chronic tonsillitis (Caldas *et al.*, 2007). In this reported case surprisingly, the tonsillolith got dislodged without any surgical intervention and the patient was given some antibiotics and analgesic and the follow up was uneventful. A good clinical history, with clear understanding of tonsillolith as a differential of ipsilateral tonsillar hypertrophy coupled with good imaging, the outcome of the management is usually successful.

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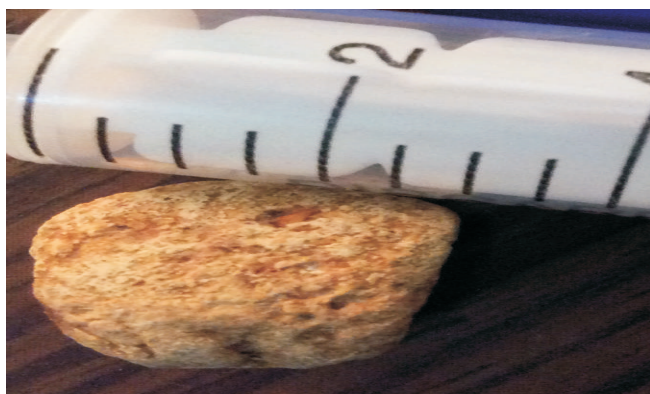


Fig. 1a: Dislodged giant tonsillolith



Fig. 1b: Dislodged giant Tonsillolith



Fig. 2: Tonsillolith crystals upon crushing

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