Research Paper Medical Science

Tonsillolith- Presentation of Two Cases on Routine Clinical Examination

Subashini Suyambukesan Assistant Professor, Department of Oral Medicine and Radiology, Penang International Dental College, NB Tower , Jalan Bagan Luar, 12000, Butterworth, P.Pinang, Malaysia.

Gopu Chandran Lenin Perumal Assistant Professor, Department Of Periodontology, Penang International Dental College, NB Tower , Jalan Bagan Luar, 12000, Butterworth, P.Pinang, Malaysia.

ABSTRACT

Tonsillolith is an uncommon dystrophic calcification as a result of chronic inflammation of the tonsils. Etiology for the formation of tonsillolith are multifactorial. Varying degrees of presentation of tonsilloliths are documented in the literature. Here we present two cases of clinically identified tonsilloliths which were asymptomatic and detected upon routine clinical examination. The aim of this paper is to enumerate the importance of examination of the tonsillar crypts and to make the general dentist aware of the presence of accumulations of such concretions in those crypts.

KEYWORDS tonsillolith, dystrophic calcification, tonsillar crypts

INTRODUCTION:

Calcium salts particularly calcium phosphate gets deposited in the bones. If this deposition occurs in an unorganized manner in soft tissues, it is referred as heterotrophic calcification which can either be metastatic, dystrophic or idiopathic. Dystrophic calcification is pathologic and occurs in degenerative and dead tissue despite normal serum calcium and phosphate levels (Vinay Kumat et al. In Robbins Basic Pathology). One such type of calcification to be noticed by a dentist is tonsillolith.

Tonsilloliths are also called as tonsil stones or tonsillar calculi. They are clusters of calcified mass that are formed in the folds of the tonsillar crypts. It overhangs out of the tonsillar crypts in different shapes and sizes and are not usually harmful. Smaller concretions are asymptomatic and are easily dislodged. They can be detected clinically by a dentist if complete systematic clinical examination of the faucial pillars and tonsils are done. It causes halitosis and in cases of increased size it can result in dysphagia, tonsillitis, pharyngitis referred auricular pain and choking . The etiologies which precipitates tonsillolith formation are accumulation of cellular debris with oral bacterial action, hyperactive salivary glands, beetel nut and tobacco chewing with slaked lime, mucus secretions, intolerance to food or dairy products, salivary stasis and hypercalcemia (Tsuneishi M et al -2006 and William S Mekerrow-2008).

CASE REPORT 1:

A 52 year old female patient reported for routine dental examination. Her medical, surgical and past dental history were non-contributory. Extra oral examination revealed no abnormalities. On intraoral examination, there were multiple decayed teeth and halitosis which appeared to be related to the compromised periodontal condition. On examination of the faucial pillar and tonsillar region, small yellowish white concretions of size 2 x 3 mm was found bilaterally between the palatoglossus and palatopharyngeal arch and superior to the palatine tonsil (Figure 1). Though there was no complaints of dysphagia, dyspnoea or otalgia , the patient reported the presence of foreign body like sensation but it was asymptomatic. The patient had recurrent episodes of pharyngitis. Panoramic radiograph did not reveal any pathology.



Figure 1- Bilateral presence of Tonsillolith

CASE REPORT 2:

A 36 year old female patient reported to the dental clinic complaining of deposits on the teeth and requested for scaling. Her medical, surgical and past dental histories were non- contributory. On intraoral examination, there was a mild gingival inflammation. Examination of the tonsillar crypts revealed the presence of white concretions on the left tonsillar crypt of size 2 x 2 mm, about 7mm distal from the junction of muscularis uvulae and left palatoglossus muscle. There was no history of dysphagia or sore throat. In the Panoramic Radiograph, no radiopaque masses in the mandibular ramus area were detected.



Figure 2-Tonsillolith on the left tonsillar crypt

For both the cases, mass was palpated under local anaesthesia and it popped out in fragments when pressed at the distal side. The remaining pellets were also removed successfully under local anesthesia. The masses were not very soft and broke off into smaller pieces. The presentation of these two cases confirmed it to be a tonsillolith. Both the patients were reviewed after 1 and 3 weeks and later after 2 months. There was no recurrence and there were no associated symptoms.

DISCUSSION:

Tonsilloliths are uncommon calcified concretions that develop in tonsillar crypts within the substance of the tonsil or around it. Mesolella M et al (2004) reported that tonsilloliths frequently contains carbonates and phosphates of calcium and magnesium. They also stated that tonsilloliths were found to be located in the tonsillar fossa in 21.2 % of the cases , in the tonsillar tissue in 69.7 % and in the palatine in 9 %. Its size ranges from a few millimetre to several centimetres.

The correct etiopathogenesis is not known. M.D.de Moura et al (2007) described the pathogenesis as follows. Repeated inflammation causes fibrosis of the openings of tonsillar crypts upon which there is accumulation of bacteria and epithelial debris to form retention cysts. Calcification occurs subsequently and it enlarges further. The carbonates and phosphates of calcium and magnesium are derived from saliva.

A case of giant tonsillolith was described by F.J.Silvestre Donat et al (2005) and he further stressed that tonsilloliths sometimes occur in association with persistent chronic purulent tonsillitis. The other mechanisms proposed by them for calculi that are located in the peritonsillar areas are the existence of ectopic tonsillar tissue, formation of calculi secondary to salivary stasis within the ducts of minor salivary glands or due to calcification of abscess accumulations. There is no gender predilection for the occurrence of tonsilloliths (M.D.de Moura et al- 2007). According to Pruet CW & Duplan DA (1987) they are rarely seen in children.

Using confocal microscopy, tonsilloliths were morphologically compared with dental biofilms by P.Stoodley et al (2009) and they concluded that both were morphologically similar and contains corncob structures, filaments and cocci. Tsuneishi M et al (2006) detected anaerobic bacterias in tonsillolith using PCR and scanning electron microscopy. All of these bacterias can produce volatile sulphur compounds which can cause halitosis. Both the patients reported in this case report also had halitosis.

The clinical presentations vary from being completely asymptomatic to sore throat, halitosis, dysphagia, otalgia, presence of foreign body sensation, irritable cough and tonsillar swelling. In our case, the first patient reported foreign body sensation and the second patient was asymptomatic.

M.D.de Moura et al (2007) emphasized that tonsilloliths are usually accidentally detected on Panoramic Radiographs (PR) . The site is on the mid of the mandibular ramus. They appear as a cluster of multiple, small radiopacities with ill-defined margins. A descriptive study done by Aghdasi MM et al (2012) , demonstrated that tonsilloliths may be accidentally detected through PR only in 5 % of the cases. In this case report, the PR of both the patients were normal and no calcified foci were observed in mid ramus region. This could be due to the fact that not all tonsilloliths are completely calcified and hard. F. J. Silvestre Donat et al (2005) observed that tonsilloliths usually present as single stones of hard consistency, but multiple bilateral small calculi which is more friable in consistency can also be seen.

Tonsilloliths can be easily detected by appropriate inspection of the faucial pillars and the tonsils by a dentist. The main objective of this article is to stress two points. One is that upon detection of the presence of yellowish white asymptomatic mass in the tonsillar crypt and even in the absence of any radiological evidence of calcified mass, the dentist must consider tonsilloliths in the provisional diagnosis. The second point is that a competent dentist will never fail to examine the oropharynx. So, appropriate systematic and complete examination of the oral mucosae must be done on all patients during their dental visit irrespective of their chief complaint.





REFERENCES

1. Aghdasi MM, Valizadeh S, Amin-Tavakoli N, Bakhshandeh H. (2012). Tonsilolith in Routine Panoramic Radiographies; Is It a Common Incidental Finding? Iran J Radiol. 9(2):109-10. | 2. F. J. Silvestre Donat, A. Pla Mocholi, E. Estelles Ferriol, and V. Martinez Mihi. (2005). Giant tonsillolith: report of a case. Medicina Oral, Patologia Oral y Cirugia Bucal .vol. 10, no. 3, pp. 239–242. | 3. M. D. de Moura, D. F. Madureira, L. C. Noman-Ferreira, E. N. Abdo, E. G. de Aguiar, and A. R. Freire. (2007). Tonsillolith: a report of three clinical cases. Medicina Oral, Patologia Oral y Cirugia Bucal. vol. 12, no. 2, pp. E130–E133. | 4. Mesolella M, Cimmino M, Di MM, Criscuoli G, Albanese L, Galli V. Tonsillolith. (2004). Case report and review of the literature. Acta Otorhinolaryngol Ital.24:302-7. | 5. P. Stoodley, D. deBeer, M. Longwell et al. (2009). Tonsillolith: Not just a stone but a living biofilm. Otolaryngology .Vol. 141, no. 3, pp. 316–321. | 6. Pruet CW, Duplan DA. (1987).Tonsil concretions and tonsilloliths. Otolaryngol Clin North Am. 20:305-9. | 7. Tsuneishi M, Yamamoto T, Kokeguchi S, Tamaki N, Fukui K, Watanabe T. (2006).Composition of bacterial flora in Tonsiloliths. Microbes Infect . 8(9-10): 2384 – 2389. | 8. Vinay Kumar, Abdul K Abbas, Nelson Fausto, Richard N. Mitchell.(2007) Cell Injury, Cell Death and Adaptations. In Robbins basic Pathology. 8th edition. Saunders Elsevier publications. Philadelphia, PA , pp 26,27. | 9. William S Mekerrow. (2008). 'Diseases of Tonsil', Scott Brown's Otorhinolaryngology and Head and Neck Surgery, 8th edition, Vol 1, Edward Hodder Arnold Publishers:1224 – 1225. |