

Tonsillolith: A Panoramic Radiograph Presentation

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ABSTRACT

Tonsilloliths are calcifications within a tonsillar crypt, involve primarily the palatine tonsil caused by dystrophic calcification as a result of chronic inflammation. Tonsilloliths are very uncommon and are microscopic. Tonsillar concretions sometimes produce symptoms which include non-specific chronic halitosis, irritable cough, dysphagia, otalgia and foreign body-like sensation or foul taste. Patients with tonsillolithiasis may also be asymptomatic, with their lesions being discovered incidentally on panoramic radiographs. This article presents an unusual case of multiple bilateral and asymptomatic tonsilloliths which were found during a routine panoramic radiographic examination.

Key words: Tonsil disease, Tonsillolith, Orthopantomograph, Tonsillar calculi, Tonsil concretions

CASE REPORT

A 55-year-old male patient signed in for replacement of his edentulous space by implants. Most of his maxillary and mandibular teeth had got exfoliated because of periodontitis and the patient was edentulous for around 8-10 years. He had now visited us for replacement of teeth. A panoramic radiograph was made in which showed as an incidental finding of multiple bilateral radiopacities on the mid portion of right and left mandibular ramus, in the region where the image of the dorsal surface of the tongue crossed the ramus in the palatoglossal air spaces, was seen. These radiopacities were multiple, small and well defined and they were approximately around 2 mm in diameter [Table/Fig-1,2 and 3]. These calcifications had densities which were slightly more than those of the cancellous bone. The average size of these radiopacities was around 3 mm in diameter, which overlapped the foramen of the right mandible ramus. A probable diagnosis of calcification in the soft tissues was made although the possibility of an intra-osseous abnormality was not ignored. Later, a retrograde, detailed, clinical examination of the patient was done. His medical history revealed that the patient was in excellent health, with no history of any systemic disease. Tissues which were related to the parotid-mesenteric areas were clinically painless and normal in tone when they were palpated. Cervical lymphadenopathy and trismus were absent. Intraorally, maxillary arch was edentulous and lower arch was partially edentulous, with 34, 35, 37, 43, 44 and 47, which were endodontically treated and for which crowns were placed. No other pathological intra-oral findings were observed. Considering the radiographic location and appearance of the lesion on an orthopantomograph, diagnosis of the Tonsillolith was made. An ENT consultation was given, which did not reveal any positive signs of pathology on clinical examination. As the patient was asymptomatic and as the tonsilloliths were multiple and small, no specific treatment was given.

DISCUSSION

Tonsilloliths or tonsil stones are calcified bodies that develop in enlarged tonsillar crypts, that are packed with bacteria and organic debris [1]. They arise as a result of dystrophic calcification in the crypts of the palatine tonsils, owing to chronic inflammation of the tonsils. They are usually single and unilateral, but occasionally they may be multiple or bilateral. They are composed of calcium salts such as hydroxyapatite or calcium carbonate apatite, oxalates, and other magnesium salts and ammonium radicals. They are usually of small sizes. The exact aetiology and pathogenesis is unknown.

Repeated episodes of inflammation may produce fibrosis at the openings of the tonsillar crypts. Bacterial and epithelial debris then accumulate within these crypts and they contribute to the formation of retention cysts. Calcification occurs subsequent to the deposition of inorganic salts and enlargement of the formed concretion takes place gradually. The Tonsilloliths derive their phosphate and carbonate of lime and magnesia from saliva which is secreted by three major salivary glands and by about 400 to 500 minor salivary glands. Consequently, they occur most commonly in young adults who are of the age range of 20-60 years [2] and are rarely seen in children [3]. Presented case was in the 5th decade of life. Small concretions may be asymptomatic and they may be detected co-incidentally



[Table/Fig-1]: Orthopantomogram reveals a multiple radiopaque areas in the mandibular ramus both on right and left side



[Table/Fig-2]: Cropped Orthopantomogram reveals multiple radiopaque areas seen mandibular ramus in the region (right side)



[Table/Fig-3]: Cropped Orthopantomogram reveals multiple radiopaque areas in the mandibular ramus (left side)

on panoramic radiographic examinations, while more severe forms may present with pain and foreign body sensation in throat, swelling in the tonsillar fossa, odynophagia, otalgia, peritonsillar abscess and halitosis [3]. In a review which was made by Mesolella et al., tonsilloliths were found to be located in the tonsillar fossa in 21.2% of cases, in the tonsillar tissue in 69.7% cases and in the palatine in 9% cases, with variations in sizes ranging from a few millimetres to several centimetres [4].

The mechanism by which these calculi form is still being disputed, though they appear to result from the accumulation of material which is retained within the tonsillar crypts, along with the growth of bacteria and fungus, sometimes in association with persistent chronic purulent tonsillitis. Alternative mechanisms have been proposed for calculi that are located in peritonsillar areas, such as the existence of ectopic tonsillar tissue, formation of calculi which are secondary to salivary stasis within minor salivary gland secretory ducts or calcification of abscess accumulations [5].

Consistency of tonsilloliths ranges from soft and friable to as hard as stone, with long histories of recurrent sore throat [2]. Panoramic

radiographs are the first diagnostic tool to diagnose the radiopaque lesions in the jaws. In case of tonsillitis, it is revealed on orthopantomographs as single or multiple defined radiopacities on the mandibular ramus, in the region where the dorsal surface of the tongue crosses the ramus in the palatoglossal or glossopharyngeal air spaces [6]. The present described case had no defined symptoms which concerned the identified pathology and the past history did not identify the possible aetiology. Diagnosis in the present case constituted of casual findings of radiological study which was conducted for other reasons. When multiple radiopaque areas are seen on the conventional radiographs or on panoramic radiographs of jaw, it is sometimes difficult to determine whether the calcification is within soft tissue or a central lesion. Differential diagnoses may be phleboliths, lymph node calcifications, calcified granulomas, scrofulas, malignancies, diseases such as tertiary syphilis, tuberculosis and deep fungal infections, foreign bodies and isolated bone or cartilage which was derived from embryonic rests, or an elongated styloid process could be also be suspected [7, 8].

CONCLUSION

Tonsilloliths may be accidentally detected on panoramic radiographs in nearly 5% of cases. Tonsilloliths should be the first differential diagnosis when multiple opaque lesions with ill-defined borders, which are superimposed on the palatal uvula and the ramus, are detected on panoramic radiography. A correct diagnosis will eliminate the need for further evaluations which include radiography and clinical examinations.

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