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Palatine tonsilloliths incidentally found on the panoramic radiograph

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The tonsilloliths (also known as tonsil stones) are relatively common. In our daily clinical practice, however, patients rarely have complaints related to the tonsilloliths. Since the patients with the tonsilloliths rarely have symptoms, they usually do not know that they have tonsil stones.[1,2] The tonsilloliths can form within the crypts of the tonsils including palatine, lingual, pharyngeal, and Eustachian tube tonsils and range in size from a grain of rice to a pea and further to a large stone. The tonsilloliths are soft at the initial stage but when they calcify subsequently, they turn into hard calcium deposits.[1,2] In this article, we reported the detection of the left side palatine tonsilloliths on the panoramic radiograph of an adult patient incidentally.

This 48-year-old male patient came to our dental outpatient clinic in December 2019, with a chief complaint of a soft tissue protrusion on the left upper buccal mucosa. Because the benign nature of the mass, the oral surgeon recommended a follow-up visit two months later. The patient returned two months later, and there was no change of the mass. However, the patient was concerned for the disease, thus the oral surgeon finally excised the tumor under local anesthesia and the removed soft tissue specimen was sent for histopathological diagnosis. The histopathological examination confirmed the soft tissue mass to be a fibroma with hyperparakeratosis. In this situation, the patient's oral problem was properly solved. However, we incidentally discovered the multiple small calcified masses superimposed on the middle level of the left mandibular ascending ramus on the panoramic radiograph taken at the patient's first visit (Fig. 1A). The partial magnification of the left side of the mandibular ascending ramus revealed that these small radiopaque nodular masses were most likely the palatine tonsilloliths, because they were characteristic calcified masses located at the level of the left palatine tonsil (Fig. 1B).

In the present case, the multiple small radiopaque masses were found to be superimposed on the midportion of the left mandibular ascending ramus on the panoramic radiograph. The size of the radiopaque masses varied from 2 mm to 3 mm. In the literature, the small radiopaque masses superimposed on the midportion of the mandibular ascending ramus on the panoramic radiograph are most likely to be the palatine tonsilloliths by the consideration of the relative relation of anatomical position between the lesion and the normal structure. Actually, the presence of the palatine tonsilloliths can be confirmed with the computed tomography (CT), magnetic resonance imaging (MRI), or demonstration of the calculi on the removed specimen of the affected tonsil. Because the palatine tonsilloliths in our patient were asymptomatic, no aforementioned procedures were performed further.

The majority of the previous studies have not noted a gender predilection for the occurrence of the tonsilloliths. However, there is a significantly higher prevalence of the palatine tonsilloliths in the subjects over 40 years of age than in those under 40 years of age.[1,2] It has been reported that the detection rate of the palatine tonsilloliths ranges from 7.2% to 13.4%, but if the CT is used for confirmation of

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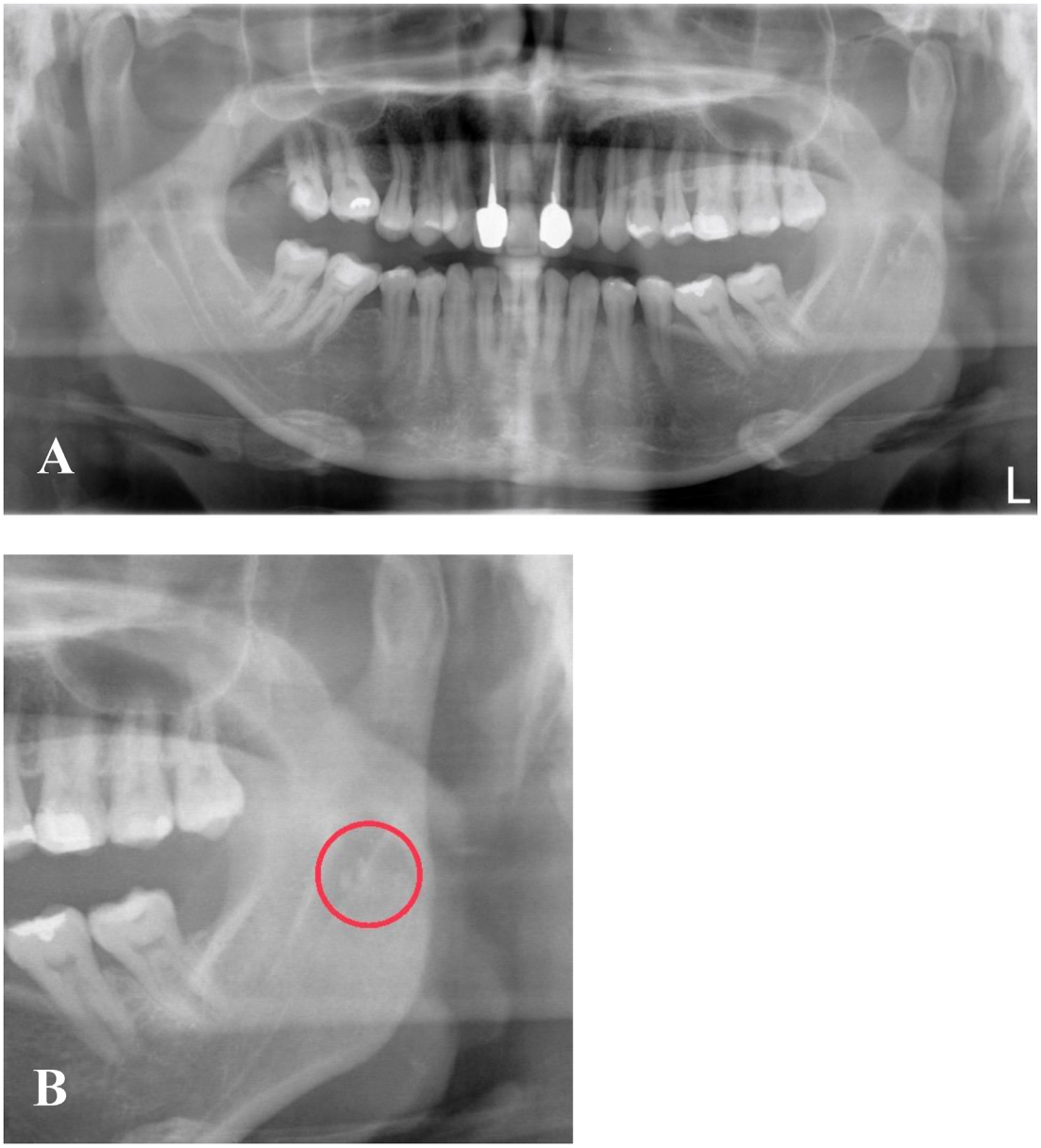

Figure 1 The multiple small palatine tonsilloliths detected on the panoramic radiograph of our patient. (A) On the panoramic radiograph taken at the first visit for the consultation of a soft tissue mass on the left upper buccal mucosa, there were the multiple small calcified masses superimposed on the middle level of the left mandibular ascending ramus. (B) The partial magnification of the left side of the mandibular ascending ramus revealed that these small radiopaque nodular masses were most likely the palatine tonsilloliths, because they were characteristic calcified masses located at the level of the left palatine tonsil.

the palatine tonsilloliths, the detection rate increases to 16—46.1%.[1,2] These findings indicate that the palatine tonsilloliths are clinically more common than previously suggested, because the panoramic radiographs detect only a small percentage of these palatine tonsilloliths. The detection of the palatine tonsilloliths depends on the degree of calcification, size, and number of the tonsilloliths. Although the tonsilloliths rarely cause symptoms, they are still clinically-related complaints such as pain, halitosis, tonsillar abscess, chronic sore throat, and dysphagia.[1,2] Therefore, in our daily clinical practice, it still makes sense to detect the tonsilloliths for our dental patients.

In addition to oral assessment for dental caries and periodontitis, using panoramic radiographs as a tool for detection of the lesions or diseases within the jawbones (such as impacted teeth, supernumerary teeth, odontoma, radicular cyst, and other odontogenic or non-odontogenic diseases) is indeed a good way to take the advantage of the universal acceptance of panoramic radiographic examinations for our dental patients in Taiwan.[3,4] In addition to the tonsilloliths, carotid artery calcifications can also be detected by the panoramic radiography.[5] For a well-trained dentist, it is also one of the responsibilities to use the opportunity of interpreting panoramic radiographs to detect

possible lesions other than dental or jawbone diseases for our dental patients.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

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