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Multiple Bilateral Tonsilloliths: Case Report

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Tonsilloliths, calcifications within a tonsillar crypt, involve primarily the palatine tonsil. Tonsilloliths are not uncommon, but they tend to be microscopic. Weller[1] reported that during routine histologic examination of excised tonsils, microscopic tonsilloliths were found in 8% of the specimens. Macroscopic calculi, whose size varied from barely visible to pea size, represent an intermediate form and were identified by Weller in 2% of the excised tonsils.[1] Aspestrand and Kolbenstvedt[2] reviewed computerized tomographic (CT) scans and reported an incidence of 16% with the calcifications varying in size from 1 to 7 mm. Because of its eye-catching presentation, authors have centered their attention on the relatively rare, but very large, tonsillolith whose size can approach 3 cm.[3-16]

The surface of the palatine tonsil is marked by the presence of many crypts. Organic debris, consisting of dead bacteria and debris from inflammation, epithelial tissue, and food, can be trapped at the base of the crypt and act as a nidus for salt precipitation.[1,2,6,8,17,18] The salts, consisting mainly of carbonates and phosphates of calcium and magnesium, are derived from the surrounding bathing saliva and inflammatory exudate.[5-8,11,13,16] With salt deposition, a tonsillolith forms and tends to grow with the addition of further salt accretions.

Most reports in the literature concern the large tonsilloliths. These reports indicate that these tonsilloliths occur in males and females equally[8,13,18] during the fifth decade of their life.[8,18] Tonsilloliths may occur singly or in multiples and may be unilateral or bilateral in their presentation. The larger tonsilloliths seem to occur alone whereas the smaller calculi are often seen in multiples.[16] Tonsilloliths, particularly the very large, can cause recurrent bouts of sore throat, dysphagia, bad taste and odor, otalgia, and a foreign body sensation noted on swallowing. However, they are frequently totally asymptomatic.[13,15,16,18-20]

Because tonsilloliths can be asymptomatic, it is often during routine imaging procedures that their presence is uncovered. Panoramic radiographs taken by dentists have been an efficient tool to incidentally show the existence of macroscopic tonsilloliths. The axial computed tomography (CT) scan, taken in the head and neck region, serves as another source for unexpectedly showing calcifications in the palatine tonsil. Imaging often shows that the 4 to 7 mm tonsillolith has a lucent core surrounded by a concentric opaque ring pattern.[1,3,21]

This article presents a case that is highly unusual in that multiple bilateral and asymptomatic macroscopic tonsilloliths were found during a routine panoramic radiograph examination. No similar case could be found in a review of the literature.

Report of a Case

A 51-year-old healthy male visited his dentist for routine dental care. During the examination, a panoramic radiograph was taken. Multiple bilateral calcified nodules, measuring 2 to 7 mm in diameter, were observed superimposed on the right and left posterior mandibular rami (Fig 1). The patient was referred to the Salivary Gland Center for further study regarding a possible diagnosis of parotid sialolithiasis.

Questioning indicated that the patient was in excellent health. There was no history of any systemic disease. No swellings or discomfort had ever been present in the head or neck areas. Clinically, no extraoral swellings were evident. Palpation of the face, with particular attention to the parotid areas, showed the tissues to be normal in tone and painless. There was no cervical lymphadenopathy. There was no trismus.

Intraorally, some dental caries was present but no acute infectious processes were evident. The posterior mandibular soft tissues were not inflamed nor were they swollen or painful. Close scrutiny of the posterior regions of the right and left mandibles showed no abnormalities laterally or medially. The orifices of the Stensen's duct were patent and free, and clear salivary flows were produced when the parotid glands were massaged aggressively.

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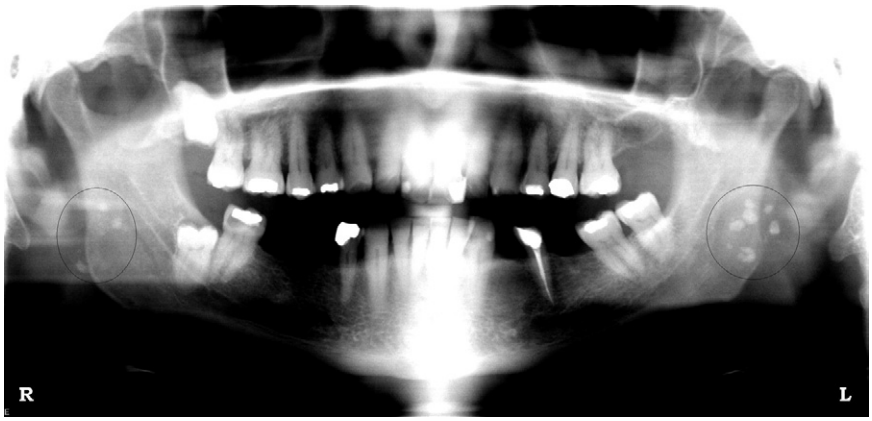

FIGURE 1. Panoramic radiograph shows multiple tonsilloliths (*encircled*) in region of right and left mandibular rami.

Louis Mandel. Multiple Bilateral Tonsilloliths. J Oral Maxillofac Surg 2008.

The panoramic film was studied carefully. Three calcified nodules measuring 2 to 3 mm were present on the right side. Two were superimposed on the ramus whereas 1 seemed to be in soft tissue close to the gonial angle. On the left side, 6 calcifications measuring 2 to 7 mm were observed. Two of these calcifications were in soft tissue whereas 4 were superimposed on the posterior ramus above the gonial angle.

To determine the exact anatomic location of these calcifications, a CT scan with no contrast was ordered. The axial CT scan showed clearly that these calcifications were located in the right and left palatine tonsils (Fig 2). A diagnosis of multiple asymptomatic bilateral tonsilloliths was made.

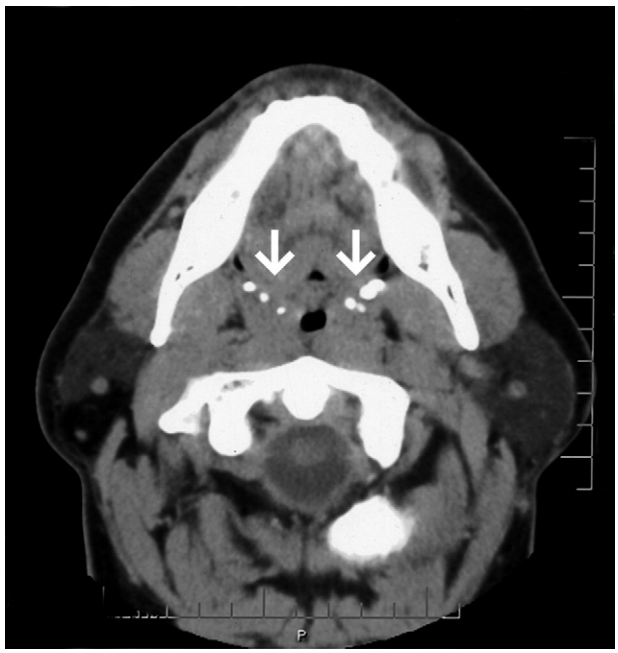

FIGURE 2. Computed tomography scan. Axial view with no contrast. Multiple tonsilloliths (*arrows*) involving right and left palatine tonsils.

Louis Mandel. Multiple Bilateral Tonsilloliths. J Oral Maxillofac Surg 2008.

Discussion

Initially a diagnosis of multiple bilateral parotid stones was considered. However, the random pattern of their distribution and their multiplicity argued against sialolithiasis. Furthermore, there was no indication of any history or presence of a parotitis. Obstructive parotid swellings or pain were not part of the story, and the salivary return was observed to be adequate and clear rather then diminished and suppurative.

Another calcified entity that was considered was phlebolithiasis. Phleboliths are calcified thrombi and are often found in association with hemangiomas. Skeletal muscle hemangiomas do occur in the head and neck region and usually involve the masseter muscle. Consequently phleboliths can be seen in the anatomic area occupied by the masseter muscle and mandibular ramus. However no swellings marking the existence of a hemangioma were observed.

Lymph node calcifications represent another process that entered into the differential diagnosis. Scrofula, tuberculous lymphadenitis, is often hallmarked by multiple calcifications that involve the cervical chain of lymph nodes. Tuberculosis and other granulomatous diseases that may involve the cervical nodes were eliminated by the absence of any medical history or symptomatology indicating their existence. In addition, the calcifications seen in this case do not follow the anatomic configuration of a cervical node chain. Differential diagnosis also must include the presence of anatomic structures such as an elongated styloid process, calcification of the stylohyoid apparatus or even a prominent hamular process. Arterial calcifications and foreign bodies also must be brought into the equation. A granulomatous disease of the tonsil, which has progressed to calcification, is another possibility.[19] This group of opacities can be

confused with a single tonsillolith, but certainly not with the numerous opacities seen in this reported case.

The panoramic radiograph can not be expected to show the exact location of observed opacities. A 3D investigation is necessary. The CT scan with its axial and coronal views was indicated. No contrast was required because the resulting vascular opacities can conflict with the pathologic opacities that are of interest. The axial CT scan definitively solved the problem of anatomically locating the multiple bilateral calcifications. They were clearly shown to be bilaterally placed in the palatine tonsils.

Treatment

Single large tonsilloliths are removed surgically even if they are asymptomatic because recurrent episodes of tonsillitis can be anticipated.[19] Removal can be accomplished with manual compression, curettage or a simple incision to release the calcified body. When tonsillitis is present, a tonsillectomy with the contained tonsillolith, is carried out. In this reported case the patient had no subjective symptoms. Individual removal of these numerous tonsilloliths is not a feasible approach. Bilateral tonsillectomy would be the only viable procedure to eliminate the tonsilloliths. Because the patient was asymptomatic, observation certainly was a legitimate option. Therefore no treatment was offered, but the patient was alerted to the possible development of a tonsillitis with its need for surgical intervention.

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References

1. Weller CV: The incidence and pathogenesis of tonsillar concretions. Ann Otol Rhinol Laryngol 33:79, 1924
2. Aspestrand F, Kolbenstved EA: Calcification of the palatine tonsil region. Radiology 165:479, 1987
3. Hiranandani LH: A giant tonsillolith. J Laryngol Otol 81:819, 1967
4. Shrimali R, Bhatia PL: A giant radio-opaque tonsillolith. J Indian Med Assoc 58:174, 1972
5. Ramanjaneyulu P: Tonsillolith and elongated styloid. J Indian Med Assoc 62:418, 1974
6. Gapany-Gapanavicius B: Peritonsillar abscess caused by a large tonsillolith. Ear Nose Throat J 55:343, 1976
7. Elidan J, Brama I, Gay I: A large tonsillolith simulating tumor of the tonsil. Ear Nose Throat J 59:296, 1980
8. Cooper MM, Steinberg JJ, Lastra M, et al: Tonsillar calculi: Report of a case and review of the literature. Oral Surg Oral Med Oral Pathol 55:239, 1983
9. Gadgil RM: An unusually large tonsillolith. Oral Surg Oral Med Oral Pathol 58:237, 1984
10. Westmore B, Hupp J: Tonsillolith. Oral Surg Oral Med Oral Pathol 65:783, 1985
11. Hadi UM, Samara MS: Giant tonsillolith. Ear Nose Throat J 64:507, 1985
12. Jones JW: A tonsillolith. Br Dent J 180:128, 1996
13. el-Sherif I, Shembesh FM: A tonsillolith seen on MRI. Comput Med Imaging Graph 21:205, 1997
14. Laccourreye D, Hartl D, Bely N, et al: Giant tonsillolith. Ann Otol Rhinol Laryngol 107:262, 1998
15. Sezer B, Tugsel Z, Bilgen C: An unusual tonsillolith. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 95:471, 2003
16. Donat FJS, Mocholi AP, Ferriol EE, et al: Giant tonsillolith; report of a case. Cir Bucal 10:239, 2005
17. Espe BJ, Newmark H: A tonsillolith seen in CT. Comput Med Imaging Graph 16:59, 1992
18. Guidice M, Cristofaro MG, Fava MG, et al: An unusual tonsilloliths in a patient with chronic obstructive sialadenitis: Case report. Dentomaxillofac Radiol 34:247, 2005
19. Pruet CW, Duplan DA: Tonsil concretions and tonsilloliths. Otolaryngol Clin North Am 20:305, 1987
20. Mesolella M, Cimmino M, DiMartino M, et al: Tonsillolith. Case report and review of the literature. Acta Otorhinolaryngol Ital 24:302, 2004
21. Hoffman H: Tonsillolith. Oral Surg Oral Med Oral Pathol 45: 657, 1978