



## Tonsillolithiasis with actinomycotic infection: a case report

### Aktinomikotik enfeksiyonla birlikte görülen tonsillolit: Olgu sunumu

Emel Çadallı Tatar, M.D., Mahmut Karaçay, M.D., Güleser Saylam, M.D.,  
Hakan Korkmaz, M.D., Ali Özdek, M.D.

Department of 2<sup>nd</sup> Otolaryngology, Dışkapı Yıldırım Beyazıt Training and Research Hospital, Ankara, Turkey

Tonsillar calcifications, tonsilloliths, are not rare conditions for routine ear nose throat examinations. Their size vary from barely visible to the pea size and they should be kept in mind in the differential diagnoses of radiopaque lesions in this region. We report a 42-year-old male patient who had a large tonsillolith together with an actinomycotic infection of tonsillar region. The patient complained about recurrent tonsillar infections. In his routine ear nose throat examination a large tonsillolith, lodged in the right palatine tonsil, was observed. The patient underwent tonsillectomy under general anesthesia. Histopathologic evaluation confirmed the diagnosis of tonsillolith. Interestingly, actinomycotic infection was observed. The pathogenesis of tonsilloliths is not completely defined. Many investigators have suggested that tonsilloliths originate as a result of recurrent tonsillar infections. Our purpose is to remind the tonsillolith in the differential diagnoses of chronic tonsillar region pathologies.

**Key Words:** Actinomycotic infection; tonsillectomy; tonsillolith.

Rutin kulak burun boğaz muayenesinde rastlanan tonsiller kalsifikasyonlar nadir olmayan bir durumdur. Büyüklükleri, zorlukla görülebilecek kadar küçük parçacıklardan bezelye büyüklüğüne kadar değişebilmektedir ve bu bölgenin radyopak lezyonlarının ayırıcı tanısında göz önünde bulundurulmalıdır. Bu yazıda sık tekrarlayan tonsil enfeksiyonu yakınmasıyla başvuran ve tonsiller bölgede aktinomikotik enfeksiyonun eşlik ettiği büyük tonsilloliti olan 42 yaşındaki erkek hasta sunuldu. Hastanın rutin kulak burun boğaz muayenesinde sağ palatin tonsile yerleşmiş büyük tonsillolit gözlemlendi. Hastaya genel anestezi altında tonsillektomi uygulandı. Histopatolojik sonuç tonsilloliti destekliyordu. Bununla birlikte ilginç şekilde aktinomikotik enfeksiyon gözlemlendi. Tonsillolitin patogenezi tam olarak bilinmemektedir. Çoğu araştırmacılar tonsillolitlerin tekrarlayan tonsil enfeksiyonlarına bağlı olduklarını öne sürmektedir. Kronik tonsiller bölge patolojilerinin ayırıcı tanısında tonsillolit de göz önünde bulundurulmalıdır.

**Anahtar Sözcükler:** Aktinomikotik enfeksiyon; tonsillektomi; tonsillolit.

Tonsilloliths, calcifications within a tonsillar crypt, involve primarily the palatine tonsils.<sup>[1]</sup> Small tonsillar concretions may be encountered on routine sectioning of gross specimens of tonsils; however, large tonsillar concretions occur with a much lower incidence.<sup>[2]</sup> The incidence of microscopic and mac-

roscopic -size varying from barely visible to pea size- tonsilloliths were found in 2% to 8% of the routine histological examination of the excised tonsils, respectively. On the other hand, the incidence of tonsilloliths, varying in size from 1 to 7 mm, was reported as 16% in head and neck axial

computed tomography (CT) scans.<sup>[3]</sup> Tonsilloliths, when symptomatic and macroscopic, can easily be diagnosed during the routine ear-nose-throat (ENT) examination. On the other hand, they might also be incidentally diagnosed in conventional radiographs as radio-opaque lesions. Therefore, tonsillolithiasis should be kept in mind in the differential diagnosis of radio-opaque lesions in this region.<sup>[4]</sup>

### CASE REPORT

A 42-year-old male was referred to the Ministry of Health, Dışkapı Yıldırım Beyazıt Research and Educational Hospital's ENT Department. He was concerned about recurrent tonsillar infections and had taken medical therapy several times. In his routine ENT examination, a large tonsillolith was observed lodged in the right palatine tonsil, extending towards the anterior tonsillar pillar (Fig. 1). A bimanual palpation revealed a hard mobile structure between the right palatine tonsil and the mandibular ramus.

The panoramic radiograph showed a unilateral tonsillolith in the region of the right mandibular ramus (Fig. 2a). The CT scan with contrast enhancement revealed a hyperdense lesion in the right posterior oropharyngeal region situated between the palatopharyngeus and the palatoglossus muscles (Fig. 2b). The right mandibular ramus appeared normal. The lesion was clinically and radiographically diagnosed as a tonsillolith.



Fig. 1. The tonsillolith is seen in the right palatin tonsil.

The patient underwent a tonsillectomy under general anesthesia. The mass measured 1x0.5x0.5 cm, was yellowish in color and had a rough, granular surface (Fig. 3). The histopathologic evaluation confirmed the diagnosis of tonsillolith. Interestingly, an actinomycotic infection containing sulphur granules with radiating filaments in the background of the lymphoid hyperplasia was also observed (Fig. 4a-c). The patient's postoperative course was uneventful, and a postoperative panoramic radiograph revealed no residual radio-opacity in the right mandibular ramus region.

### DISCUSSION

Tonsilloliths or tonsillar concretions are calcified structures arising from the retained material and bacterial growth that develop in enlarged tonsillar crypts.<sup>[5]</sup> The pathogenesis of tonsilloliths is not completely defined. Many investigators have suggested that tonsilloliths originate as a result of recurrent tonsillar infections.<sup>[6]</sup> Our case supported this aspect with the actinomycotic infection in its pathology too. This chronic fungal infection might be an evidence for the pathology of the tonsillolith on a chronic infectious basis. However, this aspect

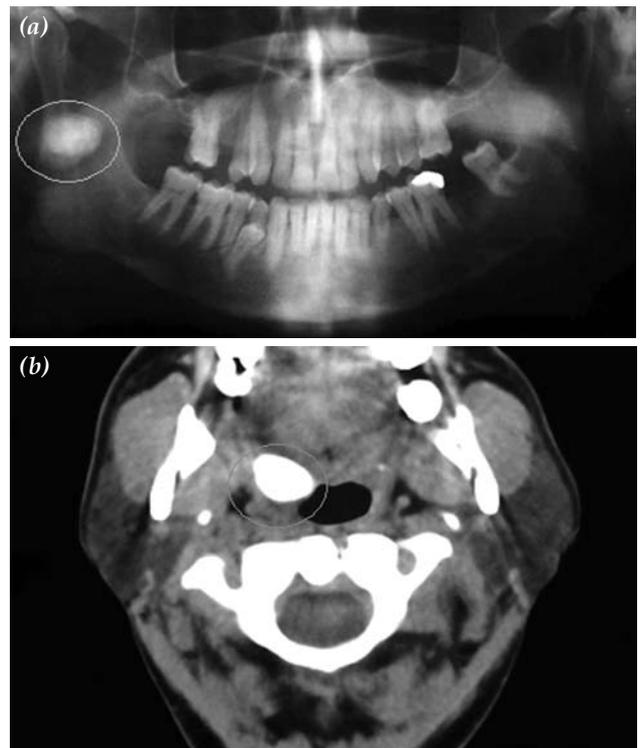


Fig. 2. (a) Panoramic radiograph shows unilateral tonsillolith (ring) in the region of right mandibular ramus. (b) Axial computed tomography scan without contrast shows tonsillolith (ring) localized to right palatine tonsillar area.



Fig. 3. The tonsillolith is seen after removal.

would not explain the existence of calculi in the peritonsillar areas such as existence of ectopic tonsillar tissue, the formation of calculi secondary to salivary stasis within the minor salivary gland secretory ducts in these locations, or the calcification of abscessified accumulations.<sup>[2]</sup>

The microscopic examination of the tonsilloliths reveals their composition as of phosphate, calcium, carbonate and magnesium, together with a mixture of organic matter including epithelial debris and bacteria.<sup>[7]</sup> The tonsillolith consistency ranges from soft and friable to hard as stone.<sup>[8]</sup> The clinical presentation of fetor oris (halitosis) and sore throat as well as the presence of whitish, expressible, foul-tasting and foul-smelling cheesy lumps from the tonsils characterizes the tonsillar concretions in many patients. Patients sometimes complain of nonspecific irritable cough, swallowing pain, dysphagia, otalgia or a foreign body-like sensation.<sup>[8,9]</sup> On occasion, a large tonsillolith may ulcerate through to the supratonsillar fossa or beneath the anterior pillar. Our patient had no such symptoms except for recurrent tonsillar infections.

The conventional radiographs cannot be expected to show the exact location of the observed opacities. It is better to apply a multi-planar CT scan without contrast to definitively observe the exact anatomical location.<sup>[1]</sup> Parotid calculi, calcified lymph nodes and granulomas, an elongated styloid process, calcification of stylohyoid ligament, pterygoid hamulus, displaced teeth, calcification of the carotid artery, phlebolith and foreign bodies

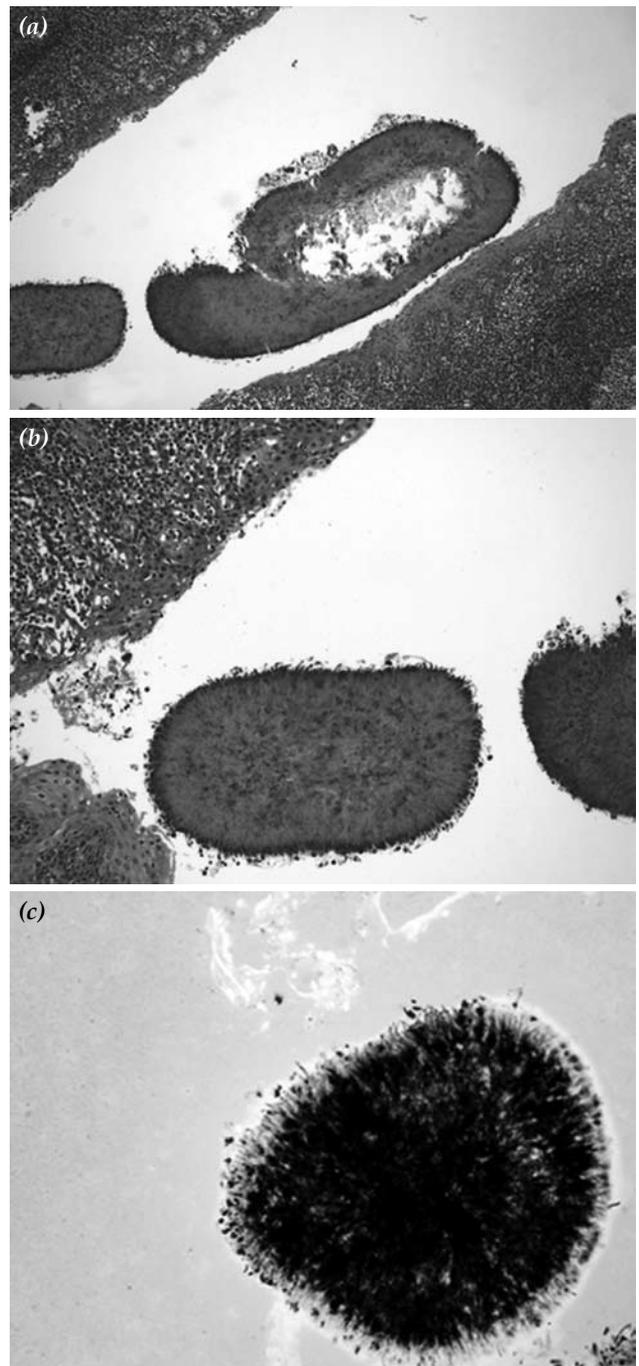


Fig. 4. (a, b) Actinomycotic infection containing sulfur granules with radiating filaments in the background of lymphoid hyperplasia. (c) Mass of radiating filaments appearing black in Silver stain.

are the other calcified entities to be considered in the differential diagnosis of tonsillolithiasis.<sup>[10,11]</sup>

Treatment is usually through the removal of the tonsillolith by curettage. Larger lesions may require a local excision under topical or local infiltration anesthesia.<sup>[4]</sup> Persistent problems like pain,

halitosis, foreign body sensation, or otalgia may require the surgical removal of the tonsils as a definitive therapy, as we did in our case.

The large tonsilloliths can be easily determined on oropharyngeal examination, however small tonsilloliths may be confused with cryptic tonsillitis, therefore, in such a case, without fever tonsilloliths should also to be kept in mind.

#### REFERENCES

1. Mandel L. Multiple bilateral tonsilloliths: case report. *J Oral Maxillofac Surg* 2008;66:148-50.
2. Revel MP, Bely N, Laccourreye O, Naudo P, Hartl D, Brasnu D. Giant tonsillolith. *Ann Otol Rhinol Laryngol* 1998;107:262-3.
3. Aspestrand F, Kolbenstvedt A. Calcifications of the palatine tonsillary region: CT demonstration. *Radiology* 1987;165:479-80.
4. Neshat K, Penna KJ, Shah DH. Tonsillolith: a case report. *J Oral Maxillofac Surg* 2001;59:692-3.
5. Pruet CW, Duplan DA. Tonsil concretions and tonsilloliths. *Otolaryngol Clin North Am* 1987;20:305-9.
6. Ram S, Siar CH, Ismail SM, Prepageran N. Pseudo bilateral tonsilloliths: a case report and review of the literature. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2004;98:110-4.
7. Cooper MM, Steinberg JJ, Lastra M, Antopol S. Tonsillar calculi. Report of a case and review of the literature. *Oral Surg Oral Med Oral Pathol* 1983;55:239-43.
8. Sezer B, Tugsel Z, Bilgen C. An unusual tonsillolith. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2003;95:471-3.
9. Silvestre-Donat FJ, Pla-Mocholi A, Estelles-Ferriol E, Martinez-Mihi V. Giant tonsillolith: report of a case. *Med Oral Patol Oral Cir Bucal* 2005;10:239-42.
10. el-Sherif I, Shembesh FM. A tonsillolith seen on MRI. *Comput Med Imaging Graph* 1997;21:205-8.
11. Suarez-Cunqueiro MM, Dueker J, Seoane-Leston J, Schmelzeisen R. Tonsilloliths associated with sialolithiasis in the submandibular gland. *J Oral Maxillofac Surg* 2008;66:370-3.