



## Case report

## Oral tonsil in the floor of mouth: Ectopic oral tonsillar tissue simulating benign neoplasms

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## ABSTRACT

Oral tonsils, ectopic sublingual tonsillar tissue, manifest as an asymptomatic, nonulcerated, freely movable nodule. We present a case of a 28-year-old female with ectopic tonsillar tissue in the anterior floor of the mouth. The lesion was totally removed under local anesthesia. The microscopic examination showed well demarcated and encapsulated lymphoid tissue with lymphoid follicles and central lacuna-like squamous epithelium covering space. These findings are similar to tonsillar tissue, and the case was finally diagnosed as sublingual oral tonsil. This article underlines that oral tonsils occur more frequently than is generally recognized, and the importance of differential diagnosis of soft tissue nodules in the oral floor.

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Oral tonsils, the occurrence of ectopic tonsillar tissue, are found in the oral cavity, and manifest as an asymptomatic, nonulcerated, freely movable nodule generally located on the anterior floor of the mouth [1,2]. It has also been considered as representing an early stage in the development of a lymphoepithelial cyst [3,4]. We herewith report a case of a 28-year-old female with ectopic tonsillar tissue to remind oral surgeons of its occurrence and the need to consider the lesion in the differential diagnosis of soft tissue nodules when found in the anterior floor of the mouth.

### 1. Case report

A female patient aged 28 years visited us complaining of swelling in the anterior floor of the mouth, because 2 weeks previously her dentist noticed the presence of a swelling lesion during a routine oral examination. Her medical history and family history were unremarkable. She did not use tobacco and drank a small amount of alcohol. Careful inspection revealed a well-circumscribed, smooth, round, painless, swelling covered by intact normal-appearing mucosa, freely movable from the underlining tissue, measuring 4 mm in diameter in the anterior floor of the mouth (Fig. 1). A general physical examination revealed neither lymphadenopathy nor evidence of systemic diseases. The lesion was clinically diagnosed as salivary gland tumor, and the clinical differential diagnosis included mucocele, lipoma, lymphoepithelial cyst, and epidermoid cyst. The lesion was totally removed

under local anesthesia. During removal, it was found to be well circumscribed and not adherent to the overlying mucosa (Fig. 2). The wound was closed primarily and healed without complication. No recurrence was observed after a 1-year follow-up period. The microscope examination showed well demarcated lymphoid tissue encapsulated with fibrous connective tissue, which consisted of abundant reactive lymphoid aggregates with well-formed germinal centers. There was a non-dilated central crypt lined by stratified squamous epithelium and containing desquamated epithelial cells and keratin debris in a central lacuna-like space. Serial sections of the lesion did not reveal continuity of the lining epithelium with the superficial epithelium. No cystic formation was found in the specimen. These findings are similar to those of tonsillar tissue rather than lymphoepithelial cyst, and the case was finally diagnosed as sublingual oral tonsil (Figs. 3 and 4).

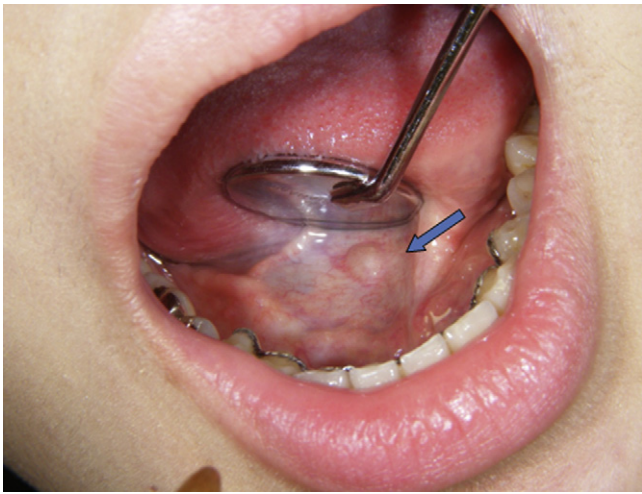
### 2. Discussion

It is well known that lymphoid tissue such as palatine, lingual tonsils and pharyngeal adenoids constitute Waldeyer's ring in the pharynx and the oral cavity. It is less organized and the smaller lymphoid aggregation can occur commonly in the floor of the mouth, the ventral surface of the tongue, and the soft palate [3]. Although lymphoid tissue aggregates occur frequently in the oral floor, a search of the literature suggests that lesions originating from lymphoid tissue such as ectopic tonsillar tissue or lymphoepithelial cyst are rare [1]. This paucity in the literature of reported cases is probably due to the small size and asymptomatic nature of the lesion, and can be easily overlooked in consequence [5].

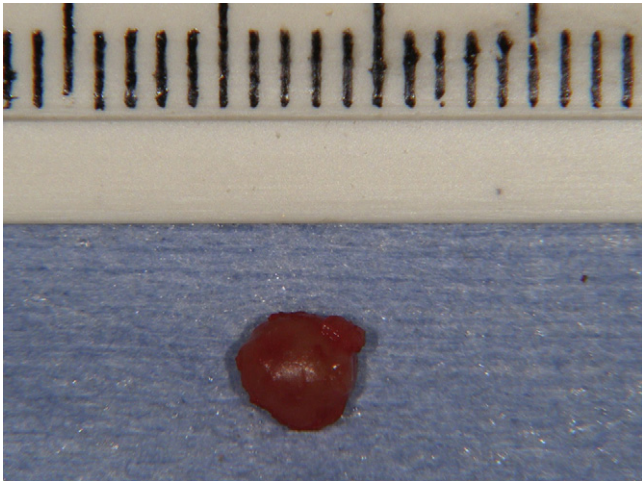
The lymphoepithelial cyst is a soft tissue epithelial cyst associated with lymphoid tissue. It is asymptomatic and small, rarely

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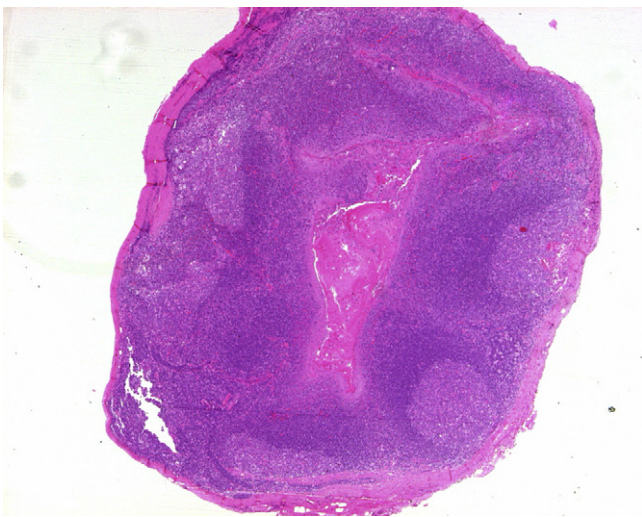
E-mail addresses: [kojikash@post.miyazaki-med.ac.jp](mailto:kojikash@post.miyazaki-med.ac.jp), [qq954eh9k@vega.ocn.ne.jp](mailto:qq954eh9k@vega.ocn.ne.jp) (K. Kashima).



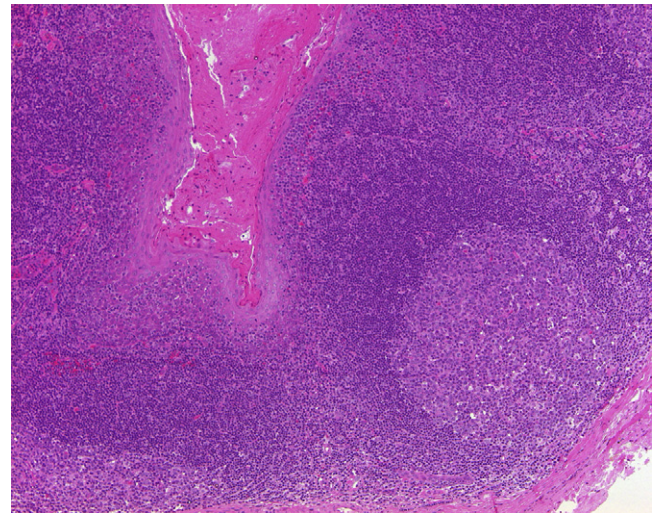
**Fig. 1.** Small swelling on the floor of the mouth (arrows).



**Fig. 2.** Gross view of the tonsillar tissue, smooth, encapsulated and measured 5 mm × 4 mm × 4 mm in size.



**Fig. 3.** Low power photomicrograph shows well-circumscribed collection of lymphoid tissue with numerous follicles and central epithelium-lined space filled with parakeratotic material. (Hematoxylin and eosin. Original magnification ×20.)



**Fig. 4.** Higher power photomicrograph displays lymphoid follicles and central epithelium-lined space area containing epithelial and keratin debris in more detail. (Hematoxylin and eosin. Original magnification ×100.)

exceeding a diameter over 15 mm. The floor of the mouth is the most common site with a proportion of 65.3%, followed by 13.7% of cases of posterolateral portion of the tongue [3]. This lesion has been also called a branchial cyst, a branchiogenic cyst, or a lymphoepithelial lesion [1]. The etiopathogenesis of lymphoepithelial cysts is a matter of debate in the literature, but some authors have considered the lymphoepithelial cyst in the oral floor as the same entity or an earlier stage of sublingual tonsil [3,4]. Knapp suggested that lymphoepithelial cyst of the oral cavity represents a dilated, obstructed crypt of the oral tonsil with either purulent material or desquamated keratinocytes [3]. Furthermore, Buchner and Hansen had classified oral tonsils into 4 groups; from the normal, narrow crypt, through the moderately dilated crypt, to the widely dilated crypt, and suggested that oral tonsils may represent an earlier stage in the development of a lymphoepithelial cyst that the lining epithelium of the cyst separates from the superficial epithelium at later stages [4]. In the present case, the lymphoid elements were prominent, the crypt was not dilated and no cystic formation was found. Serial sections of the lesion did not reveal continuity of the lining epithelium with the superficial epithelium, probably due to missing the finding of the connection between lumen and oral cavity. Acevedo and Nelson did not find any communication or continuity between the mucosal epithelium and lining epithelium of the crypts [6]. Buchner et al. also reported that there were only two cases in a series of 38 cases, in which the lining and the surface epithelium were continuous [4]. Another possible explanation that has been suggested is local trauma and obstructed tonsillar crypts. Buchner and Hansen suggested that inflammation that accompanies trauma leads to the development of the lymphoepithelial cyst, and the presence of polymorphonuclear leukocytes in the lumen of the lymphoepithelial cyst could support evidence of inflammation that led to the obstruction of the crypt of the oral tonsil and the development of the cyst [4]. In our case, there was no history of an accidental trauma in the floor of the mouth as well as the presence of polymorphonuclear leukocytes in the lumen.

Minute lymphoid tissue aggregates are normally found in the floor of the mouth [3]. Pathologic changes, commonly hyperplasia from antigenic stimulation, can cause these lymphoid aggregations to become more clinically evident. They normally appear clinically as asymptomatic, small, soft, swellings situated immediately beneath the surface epithelium, and it is impossible to determine the true nature from their clinical appearance [2,7]. The differential diagnosis includes mucocele, lipoma, amyloid nodule, salivary

gland tumor, neural tumor, and lymphoma, and the treatment of oral tonsils consists of conservative surgical removal. Microscopic examination is indicated to rule out a developmental process of malignancy [2,4,7].

Finally, this article underlines that oral tonsils occur more frequently than is generally recognized, and the importance of differential diagnosis of soft tissue nodules in the oral floor.

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