



Amrita Singh

Jasmine Cachia Mintoff and Prabhleen Anand

# Unusual Presentation of a Mucocele on the Ventral Surface of the Tongue: A Case Report

**Abstract:** This clinical report discusses the presence of a common oral pathology, the mucocele, in an unusual location, the ventral surface of the tongue. These are rare mucoceles associated with the Blandin-Nuhn salivary gland. The likely aetiology, diagnostic features and clinical management and histology are discussed. An 8-year-old male presented at a paediatric practice with a lump under his tongue. A provisional diagnosis of mucocele was made and later confirmed by histology. The lesion was excised completely under local anaesthetic and inhalation sedation.

**CPD/Clinical Relevance:** A mucocele on the ventral surface of the tongue in a young patient could easily be missed or misdiagnosed.  
**Dent Update 2023; 50: 609–611**

Derived from two Latin words, mucus and cocele (cavity), mucoceles are the most common lesions found in the oral cavity and the 17th most common salivary gland lesion. They can be found in the oral cavity, appendix, gallbladder, paranasal sinuses and lacrimal sac.

They result from a trauma or alteration to a minor salivary duct causing accumulation of mucus. Based on the histological findings, they can be classified into two types: retention and extravasation. Extravasation type mucoceles are commonly found on the lower lip, and anterior tongue and buccal mucosa, but

are rarely on the posterior tongue, palate and retromolar regions, which are more common sites for retention mucoceles. When present on the floor of the mouth they are typically known as ranulas.<sup>1</sup>

Mucoceleles are small blue lesions that are fluctuant on palpation and usually have no associated symptoms. They are most commonly found on the lower lip but can also be found on the cheek, floor of the mouth and tongue.<sup>2</sup> When found on the ventral surface of the tongue they are associated with the Blandin–Nuhn salivary gland and are reported as rare, with prevalence being traditionally reported

at around 1.9–10.3% of all mucoceles.<sup>3,4</sup> A more recent study has suggested they could comprise up to 18.3% of all mucoceles.<sup>5</sup>

This case reports on an unusual case of a mucocele on the ventral surface of the tongue in an 8-year-old male.

## Case report

An 8-year-old male presented to a private paediatric practice in London with a swelling or 'ball' on the ventral surface of his tongue. Medical history was not significant. History of trauma to the tongue was reported approximately three months prior to the appearance of the swelling.

The lump had first been noted about 2 months prior to his initial attendance at the practice and was mildly symptomatic, particularly when pushing the tongue out against the lower anterior teeth. No symptoms were reported during eating and drinking, but the patient did report that speech was occasionally affected.

**Amrita Singh**, BDS, MClintDent (Paeds), MPaedDent, Dentist with special interest in Paediatric Dentistry, Happy Kids Dental Practice, London. **Jasmine Cachia Mintoff**, BChD, MJDF, DDent (Paeds), MpaedDent, Dentist with special interest in Paediatric Dentistry, Happy Kids Dental Practice, London. **Prabhleen Anand**, IQE, BDS, MMedSc, FDSRCS(Eng) MPaedDent, FDS (Paed Dent), Consultant in Paediatric Dentistry, Royal National ENT and Eastman Dental Hospitals; Happy Kids Dental Practice, London. email: dr.amrita@happykidsdental.co.uk



**Figure 1.** Clinical photograph of a mucocele present on the ventral surface of the tongue.



**Figure 2.** Intra-operative photograph.

The swelling changed in size and occasionally increased to a fairly large size, which sometimes ruptured. The liquid contained in the swelling was a clear, saliva-like fluid.

Intra-oral examination revealed a lesion on the ventral surface of the tongue along the midline. It measured 12 x 7 mm in size, with normal overlying mucosa. The lesion was sessile and non-discharging. Unlike most mucoceles, this lesion was the same colour as the ventral surface of the tongue, with a slight redness in the central area (Figure 1).

Apart from the lesion, the patient had a clinically caries free mixed dentition with some calculus deposits with the lower anterior teeth.

The clinical features and history were consistent with mucocele and hence, no further investigations were carried out. Prior to the planned treatment, a provisional diagnosis of a mucocele was made. The treatment advised was surgical excision and histological examination to confirm the diagnosis.

### Treatment

Surgical excision followed by electrocautery was the treatment of choice in this case. The parents were given all relevant options regarding treatment and behavioural management techniques. Following this discussion, the parents agreed that treatment was to be carried out under inhalation sedation using nitrous oxide and oxygen, along with local anaesthetic. Written consent was obtained from the parents for the treatment to be carried out.

Topical benzocaine was applied to the tongue and local anaesthetic was administered into the tongue around the base of the lesion using the Wand system (Milestone Scientific Inc, NJ, USA). A total of 1.8 ml Orabloc (Pierrel, Italy) articaine 4% with 1:100,000 adrenaline was delivered.

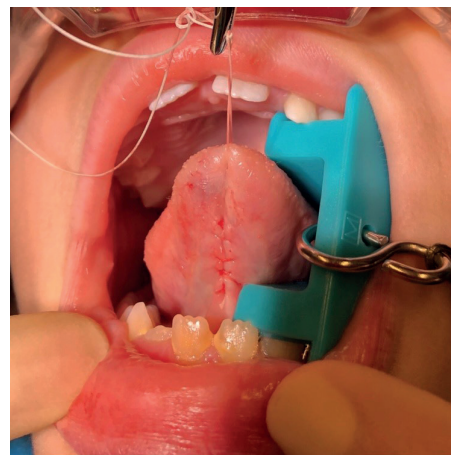
A tongue suture was placed to stabilize the tongue by the dental nurse during excision of the lesion. The lesion was excised along its base using a scalpel and number 15 blade. The resulting cavity was then explored with blunt dissection to locate and remove the associated blocked duct. The lesion was placed securely into a specimen pot and sent for histopathological analysis. Figure 2 shows an intra-operative photograph of the lesion being removed. (The surgery primarily performed by Prabhleen Anand.)

Finally, electrocautery was used for haemostasis and the margins were approximated and four embedded sutures were placed using resorbable 3.0 vicryl. Haemostasis was confirmed and the site was irrigated with chlorhexidine. Figure 3 shows the tongue after removal of lesion and suture placement.

The specimen was sent to a histology lab for analysis. The family was given written and verbal post-operative and post-sedation instructions that included a pain relief regimen, chlorhexidine mouthwash and a soft diet for at least 3 days.

The histology report confirmed the diagnosis of mucocele and that excision was complete.

The patient was reviewed at 2 weeks and then at 6 months, uneventful healing was reported. Figure 4 shows the ventral surface of the tongue at the patient's review appointment showing no post-operative pathology and good healing.



**Figure 3.** Tongue after removal of lesion and suture placement.



**Figure 4.** Ventral surface of tongue at review appointment showing good healing.

### Discussion

The origin of mucoceles is often trauma to a salivary gland duct, causing mucus to extravasate into the surrounding connective tissue. The incidence is reported at 0.4–0.9% with over 60% occurring on the lower lip.<sup>1,4</sup>

Mucocele on the ventral surface of the tongue are relatively uncommon.<sup>5</sup> They are usually associated with a small salivary gland known as the Blandin–Nuhn glands, which are found within the muscles of ventral surface of the tongue.<sup>5</sup>

As in this case, the ventral surface of the tongue can easily be traumatized, causing recurrent trauma to the mucocele. If untreated, they can grow to large sizes, causing concerns with speech or mastication.<sup>5</sup> Large lesions have also been reported to cause dysphagia or suffocation.<sup>6</sup>

Diagnosis is often by clinical examination and can be narrowed down by CT scan or MRI.<sup>6</sup> Definitive



diagnosis can only be confirmed with histopathology.<sup>7</sup>

In the case of lingual mucoceles, the removal of all the sublingual salivary gland is not necessary to prevent recurrence, hence care should be taken not to damage the lingual nerve and veins.<sup>6,7</sup> Surgical excision is the most frequent treatment option chosen for lingual mucoceles, with larger lesions possibly requiring marsupialization or dissection of the offending gland as well.<sup>5</sup> Other treatment modalities available include cryosurgery, laser, corticosteroids injected into the lesion, or pure electrocautery.<sup>4</sup>

## Conclusion

Although a rare occurrence, it is important for clinicians to accurately diagnose and manage mucoceles on the ventral surface of the tongue. This is particularly important as lesions in this area are more prone to symptoms and trauma. Surgical excision removed the entire lesion, as confirmed by histology, and no recurrence was seen at the 6-month follow-up appointment.

## Acknowledgements

We would like to acknowledge the nursing team for their assistance in the clinical management of this case, as well as the patient and his family for consenting for publication of this interesting case report.

## Compliance with Ethical Standards

**Conflict of Interest:** The authors declare that they have no conflict of interest.

**Informed Consent:** Informed consent was obtained from all individual participants included in the article

## References

1. Chaitanya P, Praveen D, Reddy M. Mucocele on lower lip: a case series. *Indian Dermatol Online J* 2017; **8**: 205–207. [https://doi.org/10.4103/idoj.IDOJ\\_151\\_16](https://doi.org/10.4103/idoj.IDOJ_151_16)
2. Nallasivam KU, Sudha BR. Oral mucocele: review of literature and a case report. *J Pharm Bioallied Sci* 2015; **7(Suppl 2)**: S731–S733. <https://doi.org/10.4103/0975-7406.163516>
3. Eversole LR. Oral sialocysts. *Arch Otolaryngol Head Neck Surg* 1987; **113**: 51–56. <https://doi.org/10.1001/archotol.1987.01860010055014>
4. Jose SC, Abraham KK, Khosla E. Blandin and Nuhn mucocele in a pediatric patient. *J Indian Soc Pedod Prev Dent* 2018; **36**: 315–318. [https://doi.org/10.4103/JISPPD.JISPPD\\_10\\_18](https://doi.org/10.4103/JISPPD.JISPPD_10_18)
5. Joshi SR, Pendyala GS, Choudhari S, Kalburge J. Mucocele of the glands of Blandin–Nuhn in children: a clinical, histopathologic, and retrospective study. *N Am J Med Sci* 2012; **4**: 379–383. <https://doi.org/10.4103/1947-2714.100977>
6. Graillon N, Mage C, Le Roux MK *et al.* Mucoceles of the anterior ventral surface of the tongue and the glands of Blandin–Nuhn: 5 cases. *J Stomatol Oral Maxillofac Surg* 2019; **120**: 509–512. <https://doi.org/10.1016/j.jormas.2019.04.005>
7. Diom ES, Fagan JJ, Bolding E. Intralingual mucous extravasation cyst: an uncommon lingual cyst. *Ear Nose Throat J* 2019; **98**: E21–E23. <https://doi.org/10.1177/0145561319836303>

Made in Sweden

**TePe**

TePe Pure is the natural toothpaste choice for sensitive gums and dry mouth.

- No colours or preservatives
- SLS free
- No foaming agents

Choose the one that suits you, either just a hint of peppermint or no added flavour. Vegan formula developed in Sweden, with fluoride for fresh and healthy teeth, the gentle way.

Available from dental wholesalers. Find out more at [tepe.com](http://tepe.com)

NEW!  
Pure Toothpaste

Mum's toothpaste is friendly, like Unicorns

– Elijah, aged 7.

Recyclable tube

AD730UK