

A Rare Occurrence of Myopericytoma of the Tongue: A Case Report and a Review of the Literature

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How to cite this paper: Alshmalı, S., Al Rawi, M., Al Saadi, M. and Al Azri, S. (2026) A Rare Occurrence of Myopericytoma of the Tongue: A Case Report and a Review of the Literature. *Health*, 18, 895-901.

<https://doi.org/10.4236/health.2026.1810056>

Received: August 8, 2026

Accepted: October 11, 2026

Published: October 14, 2026

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Abstract

Myopericytoma is a rare mesenchymal neoplasm arising from perivascular myoid cells, typically affecting the limbs of middle-aged adults and only occasionally involving the oral cavity. We present the case of a 49-year-old man with a painless, slow-growing pedunculated mass on the tongue, which on excision proved histologically and immunohistochemically consistent with myopericytoma. The lesion was completely excised with no evidence of recurrence, supporting the generally benign course of this tumor. Given its rarity and nonspecific presentation, this case underscores the value of histopathological and immunohistochemical evaluation in reaching an accurate diagnosis of intraoral spindle cell lesions.

Keywords

Benign Tumors, Myopericytoma, Oral Diseases, Rare Head and Neck, Tongue Disorders

1. Introduction

Myopericytoma (MPC) is an uncommon mesenchymal neoplasm showing perivascular myoid differentiation. It most commonly arises in the subcutaneous tissues of the distal extremities [1] [2], although lesions have also been described in proximal extremities and internal organs, including the lung, liver, and spleen [3]-[5].

Most MPCs behave in a benign manner, while malignant forms are exceptionally rare [6]. Oral MPC is particularly uncommon [7]. We report a myopericy-

toma of the tongue in a 49-year-old man and review the relevant clinical and histopathological features of this rare entity.

2. Case Presentation

A 49-year-old man presented with a painless swelling on the left dorsal aspect of the tongue that had gradually enlarged over several months. Oral examination revealed a well-defined, firm, pedunculated, non-tender mass measuring approximately 2 cm in diameter (**Figure 1**).



Figure 1. Clinical photograph showing the pedunculated lesion on the dorsal tongue.

Magnetic resonance imaging (MRI) showed a well-defined solid lesion on the left dorsal tongue, with low signal intensity on T1-weighted images, high signal intensity on T2-weighted images, and marked contrast enhancement indicating substantial vascularity.

Because the clinical diagnosis remained uncertain and the lesion was relatively small, an excisional biopsy was performed. Histopathological examination showed an ulcerated exophytic lesion composed of bland spindle cells with elongated nuclei and eosinophilic cytoplasm (**Figure 2**). Cytological atypia and atypical mitotic figures were not identified. Thin-walled, hemangiopericytoma-like vessels of variable caliber were scattered throughout the lesion. At the base, the lesion dissected between skeletal muscle fibers and was present at the deep specimen margin. The overall morphology supported a diagnosis of myopericytoma.

Immunohistochemical analysis showed that the spindle cells were positive for vimentin and smooth muscle actin (SMA) and negative for CD31, desmin, AE1/AE3, and S100 (**Figure 3**). STAT6 and SOX10 were not available.

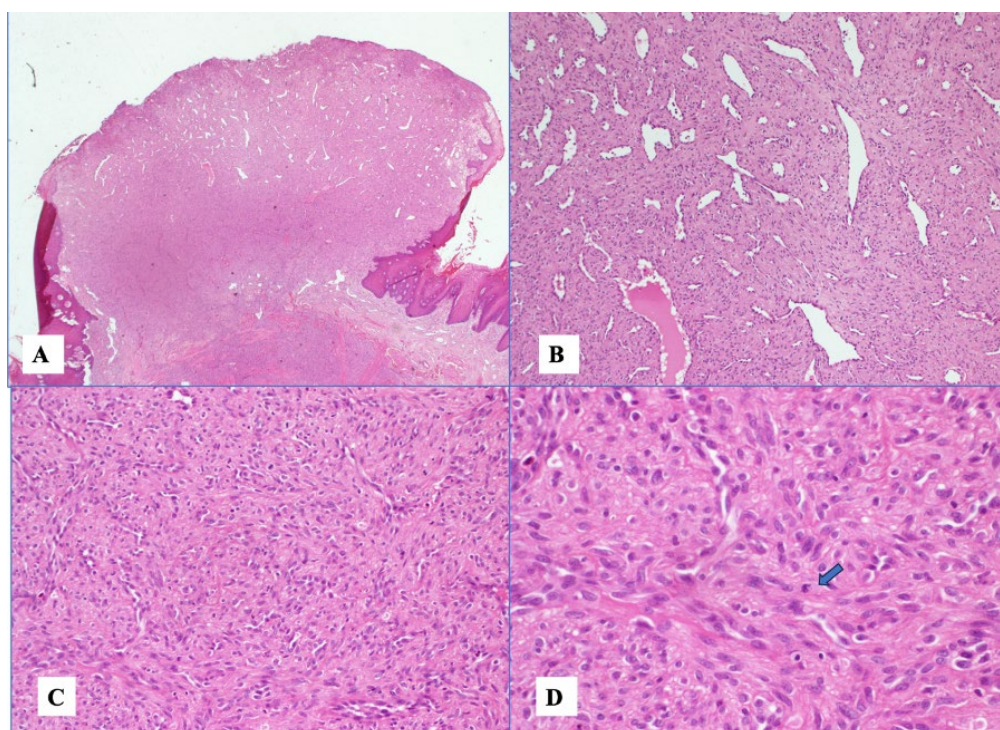


Figure 2. Histopathological features. (A) Low-power view showing ulcerated squamous mucosa with an underlying cellular lesion (H&E, 2×). (B) Cellular areas with dilated hemangiopericytoma-like vessels (H&E, 10×). (C), (D) Bland spindle-cell proliferation with a scattered mitotic figure indicated by the arrow (H&E, 20× and 40×).

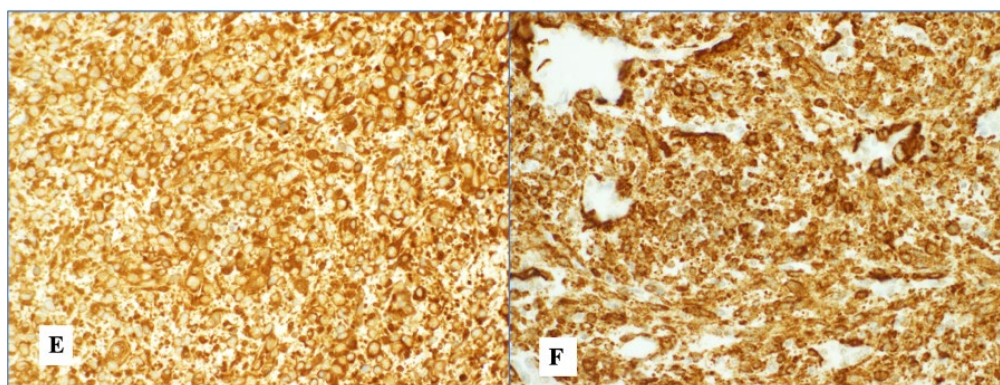


Figure 3. Immunohistochemical staining showing tumor-cell positivity for vimentin (E) and SMA (F).

Taken together, the morphologic and immunohistochemical findings supported the diagnosis of myopericytoma of the tongue.

Although the lesion reached the deep specimen margin, the postoperative findings favored a conservative approach. Histologically, the lesion was composed of bland spindle cells without cytological atypia or atypical mitotic figures; at its base, it extended between skeletal muscle fibers. Intraoperatively, we identified no gross residual lesion after excision. Taken together, these findings raised the possibility that the reported deep-margin involvement reflected the interface with the normal muscle/fascial plane rather than clinically evident residual tumor. After discussion

of the pathology findings, the option of re-excision, the expected benign behavior of MPC, and the risks and benefits of further surgery, the patient elected clinical observation. At 2 months, the surgical site had healed well, and there was no clinical evidence of recurrence (**Figure 4**). This short follow-up interval is insufficient to establish long-term absence of recurrence.

The patient will undergo regular clinical examination, with imaging reserved for suspicious clinical findings or symptoms; longer-term follow-up will be documented to assess for recurrence.

Ethical approval is not required for a single case report. Written informed consent was obtained from the patient for publication of the case details and for use of the clinical, radiological, and histopathological images.



Figure 4. Clinical appearance of the tongue at the 2-month postoperative follow-up, showing a healed surgical site without clinically evident recurrence.

3. Discussion

Myopericytoma is a rare benign mesenchymal neoplasm characterized by a concentric proliferation of myoid cells showing differentiation toward myopericytes [8]. Myopericytes are located around capillaries and small vessels and are regarded as a transitional cell type between pericytes and vascular smooth muscle cells [9]. Their contractile properties are thought to contribute to regulation of vascular caliber and capillary permeability [10].

The pathogenesis of MPC is still not well understood. Chronic trauma has been proposed as a possible contributing factor [11]. In the present case, the tongue location could plausibly expose the lesion to repetitive friction from adjacent teeth, although a causal relationship cannot be established. MPC has also been described in association with immunocompromised states and Epstein-Barr virus (EBV), with viral RNA detected in tumor cells in reported EBV-associated cases [12].

MPC usually arises in the superficial soft tissues of the distal extremities. Oral lesions are rare and have been reported at several sites, including the tongue, lip, parotid gland, gingiva, buccal mucosa, floor of mouth, and parapharyngeal region [7]. Because clinical and imaging findings are not specific, definitive diagnosis relies on histopathological assessment with appropriate immunohistochemistry [13].

Histologically, MPC is composed of oval to spindle-shaped myoid cells with eosinophilic cytoplasm arranged around vascular channels. Immunohistochemically, tumor cells typically show strong expression of α -smooth muscle actin (α -SMA) and may express muscle-specific actin, calponin, and h-caldesmon [4], whereas desmin is usually absent or only focally expressed [14]. S100, SOX10, and STAT6 are generally negative and may assist in excluding histologic mimics.

Local surgical excision is the mainstay of treatment for MPC in the maxillofacial region [1]. Recurrence is uncommon, including in some incompletely excised lesions [14] [15]. In this patient, the deep specimen margin contained tumor; however, the lesion was histologically bland, no gross residual disease was identified intraoperatively, and the involved base corresponded to the skeletal muscle interface. These findings, together with the expected benign behavior of MPC and the patient's preference after discussion of re-excision versus surveillance, supported a decision for close clinical observation. Because follow-up is currently limited to 2 months, long-term absence of recurrence cannot yet be concluded.

Malignant myopericytoma is exceptionally rare and has been associated with aggressive clinical behavior and a poor prognosis [16]. No malignant MPC involving the maxillofacial region has been reported in the cited literature.

4. Conclusion

Myopericytoma should be considered among the uncommon differential diagnoses of a painless tongue mass. Diagnosis depends on characteristic histomorphology supported by immunohistochemistry. In the present case, conservative excision was followed by observation because the deep-margin finding occurred at the skeletal muscle interface, the tumor showed bland histology without atypical features, and no gross residual lesion was identified intraoperatively. At 2 months, the surgical site was healed with no clinical evidence of recurrence; however, this interval is too short to establish durable disease control, and continued long-term surveillance is required.

Author Contributions

Conceptualization, Sabreen Alshmalı and Salah Al Azri; methodology, Sabreen Alshmalı and Salah Al Azri; validation, Maimoona Al Saadi and Salah Al Azri; investigation, Sabreen Alshmalı and Maimoona Al Saadi; resources, Sabreen Alshmalı, Maimoona Al Saadi, and Salah Al Azri; data curation, Sabreen Alshmalı and Mohammed Al Rawi; writing—original draft preparation, Sabreen Alshmalı and Mohammed Al Rawi; writing—review and editing, Sabreen Alshmalı, Mo-

hammed Al Rawi, Maimoona Al Saadi, and Salah Al Azri; visualization, Sabreen Alshmalı and Maimoona Al Saadi; supervision, Salah Al Azri; project administration, Sabreen Alshmalı and Salah Al Azri. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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