Content available at: https://www.ipinnovative.com/open-access-journals

Indian Journal of Pathology and Oncology

Journal homepage: www.ijpo.co.in

Case Report

Myopericytoma (MPC) of oral cavity in a 7-year-old child: A case report

Supriya Mehrotra[1], Bandana Mehrotra[1], Sanjay Mehrotra[1], Ashok Kumar Kapoor[1]*, Hari Shyam[2]

[1]Dept. of Histopathology, RML Mehrotra Pathology Pvt. Ltd., Lucknow, Uttar Pradesh, India
[2]Dept. of Molecular Pathology, RML Mehrotra Pathology Pvt. Ltd., Lucknow, Uttar Pradesh, India

Abstract

A patient aged 7 years complained of right-sided nasal premolar maxillary pain and nasal obstruction. He was operated. Post-operative recovery was normal. Histopathological examination revealed tumor tissue. Tumor consisted of interlacing bundles of proliferated tumor cells. Tumor cells had elongated nuclei with round ends. Immunohistochemistry showed positive reaction with anti-smooth muscle actin (SMA) antibody, suggesting mesenchymal origin of tumor cells. Tumour cells did not react with anti-S100, anti-synaptophysin and anti-chromogranin antibodies. Thus, the possibility of neural origin of tumor cells was ruled out. The tumor was finally diagnosed as myopericytoma involving right-sided maxillary sinus.

Keywords: Anti-smooth muscle actin, Myopericytoma, Myoid cell.

Received: 31-03-2025; **Accepted:** 27-05-2025; **Available Online**: 17-10-2025

1. Introduction

It is a rare mesenchymal neoplasm with perivascular differentiation of myoid cells. Myopericytoma (MPC) is a slowly-growing benign neoplasm which may arise from a myoid cell (MC). MPC is found along with thin-walled branched blood vessels as seen in hemangiopericytoma. MPC may also produce collagen which may give a positive reaction with Masson's trichrome (MT) suggesting angiofibroma-like appearance. Further, tumor cells may give a positive reaction with anti-Ki67 antibody. Ki67 index <20% may suggest it to be a benign neoplasm. Moreover, Ki67 index of 6% suggested present tumor to be a benign neoplasm. Current tumor gave a negative reaction with anti-synaptophysin, anti-S100, and anti-chromogranin antibodies which ruled out the neural origin of current tumor. Negative staining of tumor cells by anti-desmin antibody was found in addition to positive reaction with anti-SMA antibody. Finally, the tumor was diagnosed as myopericytoma.

2. Case Report

A patient aged 7 years complained of right-sided nasal obstruction and premolar intra-osseous right-sided maxillary pain. A computed tomography (CT) scan of paranasal sinuses was done. It showed a lesion, measuring 2.7×1.6×1.0 cm. On examination, a firm nodule was found over right side of hard palate near premolar tooth. He was operated and a soft tissue piece, measuring 0.8×0.5×0.5 cm was excised. Microscopic examination revealed proliferated spindle-shaped cells with elongated nuclei and round ends. Immunohistochemistry (IHC) was done. Tumor cells gave mild positive reaction with anti-SMA antibody, suggesting mesenchymal origin of the present tumor mass. Negative reactivity was seen with anti-S100, anti-synaptophysin and anti-chromogranin antibodies (**Figure 1**). It ruled out the possibility of neural origin of the current tumor. The tumor was finally diagnosed as myopericytoma.

*Corresponding author: Ashok Kumar Kapoor
Email: drashokkapoor2016@gmail.com

https://doi.org/10.18231/j.ijpo.10672.1604238977

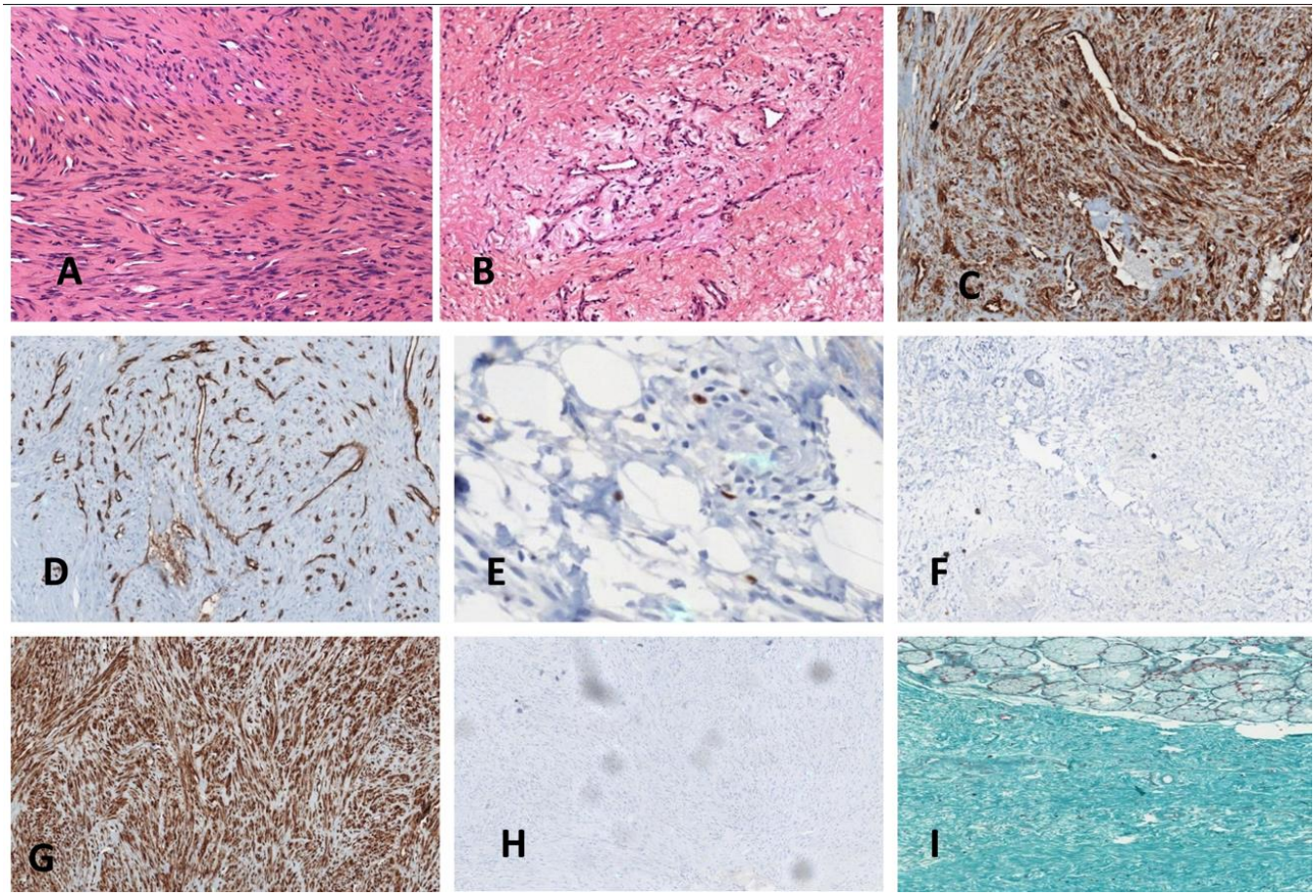

Figure 1: A): Photomicrograph showed proliferated bundles of elongated spindle-shaped tumor cells (HE × 100). **B):** Showed thin walled branched blood vessels and surrounding tumor tissue. **C):** IHC using anti-Vimentin antibody showed strong (3^+) positivity with tumor cells. **D):** Anti-CD 34 antibody showed positive reaction with branched blood vessels. **E):** Anti-Ki67 antibody stained small number of tumor cells (Ki index ~ 6%). **F):** Anti-desmin antibody failed to stain the tumor cells (× 400). **G):** Anti-SMA antibody strongly (3^+) stained the tumor cells (× 400). **H):** Anti-caldesmon antibody did not stain the tumor cells (× 400). **I):** Dense fibrosis was seen in the tumor tissue (Masson's Trichrome × 100)

3. Discussion

Myopericytoma is a slow growing benign neoplasm which may arise from a myoid cell (MC).[1] MC is a spindle-shaped cell. IHC revealed mild positive reactivity of MPC cells with anti-SMA antibody. Conversely, negativity of tumor cells was observed with anti-EMA, anti-P63, anti-β catenin, and anti-desmin antibodies. MPC may be derived from a perivascular myoid cell. Overlapping features of MPC have been found with myofibroma, glomangioma and hemangiopericytoma (HPC). HPC was described in the year 1942 as a spindle cell tumor having thin-walled staghorn-like vessels.[2] Current tumor cells may have features of immature myopericytes.[1] Negative reaction of tumor cells with anti-EMA antibody also ruled out its origin from capillary endothelial cells. Ki67 index of current tumor cells was ~ 6% suggesting benign behavior of the current tumor. MPC is a rare benign myoid tumor. Few patients with MPC have been described in the oral cavity.[3] Thirty-five patients with perivascular myoid cell neoplasm of the oral cavity have been reported in another study.[4] Radical excision of tumor mass may result in its cure. However, local recurrence may rarely occur.[5] In addition, anti-caldesmon antibody may also give positive reaction with tumor cells.[3] Overlapping features of MPC have been found with myofibroma, HPC and glomus tumor. Oral MPC may resemble angioleiomyoma or glomangioma.[6] MPC appears to be a tumor mass of subcutaneous tissue of inferior extremity. Further, MPC was first reported in the year 2008 by Calderaro et al.[7] MPC-like tumors may arise subsequent to Epstein Barr Virus infection in a patient with AIDS.[7] Moreover, MPC may be a variant of smooth muscle tumor.[7] Rarely, a multifocal/ or multicentric MPC may develop in the oral cavity.[8] Moreover, the tumor may rarely arise from soft tissue of the lip.[9,10]

4. Conclusion

Myopericytoma (MPC) may be a rare perivascular benign tumor with myoid cell differentiation. It may have similar overlapping histological features resembling glomus tumor, hemangiopericytoma and myofibroma. Present tumor was finally diagnosed as myopericytoma on the basis of its morphological and immunohistochemical features. Tumor may also have multifocal origin. Radical excision may result

in its cure. However, rarely recurrence may occur. MPC may present as a nodular lesion with myoid glomus-like tumor cells around thin-walled hemangiopericytoma-like branching vessels. Mild positive staining of current tumor cells was obtained with anti-smooth muscle actin antibody, suggesting mesenchymal origin of MPC tumor cells.

5. Source of Funding

None.

6. Conflict of Interest

None.

References

1. Wu F, Sun J, Dong J, Wang X, Gao Q. Management of multicentric myopericytoma in the maxillofacial region: a case report. *Case Rep Oncol*. 2013;6(2):350–5. https://doi.org/10.1159/000353625.
2. Stout AP, Murray MR. Hemangiopericytoma: a vascular tumor featuring Zimmermann's pericytes. *Ann Surg*. 1942;116(1):26–33. https://doi.org/10.1097/00000658-194207000-00004.
3. Hamdy O, Mahmoud A, Attia S, Megahed N, Elged B, Mansour M, et al. Myopericytoma of the mouth floor: the diagnostic and therapeutic challenge—a case report and literature review. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2024;17(3):264–9. https://doi.org/10.1111/ors.12878.
4. Ide F, Mishima K, Yamada H, Saito I, Horie N, Shimoyama T, et al. Perivascular myoid tumors of the oral region: a clinicopathologic re-evaluation of 35 cases. *J Oral Pathol Med*. 2008;37(1):43–9. https://doi.org/10.1111/j.1600-0714.2007.00594.x.
5. Mentzel T, Dei Tos AP, Sapi Z, Kutzner H. Myopericytoma of skin and soft tissues: clinicopathologic and immunohistochemical study of 54 cases. *Am J Surg Pathol*. 2006;30(1):104–13. https://doi.org/10.1097/01.pas.0000178091.54147.b1.
6. Takehiro H, Ryoko K, Waka Y, Yoshihiko S, Katsutoshi K, Makoto U, et al. Immunohistopathologic variation of oral myopericytoma. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2021;132(1):e22. https://doi.org/10.1016/j.oooo.2021.03.089.
7. Calderaro J, Polivka M, Gallien S, Bertheau P, Thiebault JB, Molina JM, et al. Multifocal Epstein Barr virus (EBV)-associated myopericytoma in a patient with AIDS. *Neuropathol Appl Neurobiol*. 2008;34(1):115–7. https://doi.org/10.1111/j.1365-2990.2006.00865.x.
8. Xia L, Chen Y, Geng N, Jiang J, Yang M, Zhang W. Multifocal myopericytoma in the maxillofacial region: a case report. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 2010;109(2):e59–62. https://doi.org/10.1016/j.tripleo.2009.09.029.
9. Vasenwala SM, Afroz N, Ansari HA, Khan AH, Basari R, Rehman S. Myopericytoma of lip: a rare lesion in an unusual location. *Indian J Pathol Microbiol*. 2015;58(2):211–3. https://doi.org/10.4103/0377-4929.155317.
10. Bansal S, Desai RS, Shetty S. Myopericytoma of oral cavity: A case report and review of literature. *Int J Oral Maxillofac Pathol*. 2013;4(3):31.

Cite this article: Mehrotra S, Mehrotra B, Mehrotra S, Kapoor AK, Shyam H. Myopericytoma (MPC) of oral cavity in a 7-year-old child: A case report. *Indian J Pathol Oncol*. 2025;12(3):290–292.