Journal of Dental Sciences 20 (2025) 1985–1987

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.e-jds.com

Correspondence

Masson's tumor of masticatory space: Detection in medical images

KEYWORDS
Masson's tumor;
Intravascular papillary endothelial hyperplasia;
Masticator space;
Total excision

Intravascular papillary endothelial hyperplasia (IPEH), commonly known as Masson's tumor, was first described by Pierre Masson in 1923. IPEH is a rare benign reactive lesion, accounting for approximately 2 % of vascular lesions found in the skin and subcutaneous tissue. It usually occurs in vein of the dermis and subcutis of the fingers, head and neck, trunk, and extremities.[1,2] In the oral cavity, the lower lip is the preferred anatomical location, with a higher prevalence in females.[2] Clinically, IPEH features as a firm or tender nodule or an elevated mass with a red or blue coloration on the skin, exhibiting a well-defined border and a slow-growing pattern.[2,3] It may mimic benign neoplasms, including mucocele, pyogenic granuloma, and hemangioma, also malignant neoplasms including angiosarcoma and Kaposi's sarcoma.[2–4]

This 55-year-old female was referred from a local dental clinic with the chief complaint of an oral swelling mass for more than a week. After physical examination, a 4 × 4 cm soft protruding mass over the left cheek, extending to the left upper buccal vestibule and left anterior temporal area was noted (Fig. 1A). Contrast-enhanced magnetic resonance imaging (MRI) revealed a 3.11× 2.32 × 6.21 cm well-defined lobulated nodule at the submucosal region of the left buccal, retromaxillary region, and masticator space with intratumoral cystic change. The lesion showed heterogenous high signal on T2WI (weighted image) with internal dot-curvilinear low signals, and iso-to slightly hyperintense on T1WI compared to adjacent muscles with heterogenous septal and progressive enhancement on the post contrast images (Fig. 1B1–B4). A nerve sheath tumor, lymphangioma or hemangioma was suspected. The total excision of the lesion under general anesthesia was performed by both intraoral and coronal approach (Fig. 1C1–C6). The diagnosis of intravascular papillary endothelial hyperplasia (IPEH) was made (Fig. 1D) by the pathologist. After 6 months, the contrast-enhanced MRI revealed residual lesion at the left zygomatic region (Fig. 1E1 and E2). One and half years after surgery, MRI revealed a mild increase in the lesional size (Fig. 1F1 and F2). The residual lesion might be due to the limited surgical field in the masticatory space. We suggested the patient to have second surgery to remove the residual tumor with the osteotomy of zygomatic arch. Since the IPEH is defined as a non-tumoral lesion without the risk of local invasion, she preferred not to have the second surgery and the subsequent regular follow-up was arranged.

IPEH is a rare lesion in general, however, it's about 25 % in the head and neck region. Mostly IPEH was reported at the lower lip and rare in masticatory space.[1,2] Before making an adequate treatment plan, the medical image analysis can assist in the differential diagnosis. IPEH has features of MRI, including (1) heterogeneity signal (2) iso-to slightly hyperintensity on T1WI (3) peripheral hyperintensity with nodular low signal intensity on T2WI and (4) peripheral or septal enhancement on contrast-enhanced T1WI.[5] The MRI images of this case were compatible with

https://doi.org/10.1016/j.jds.2025.04.012

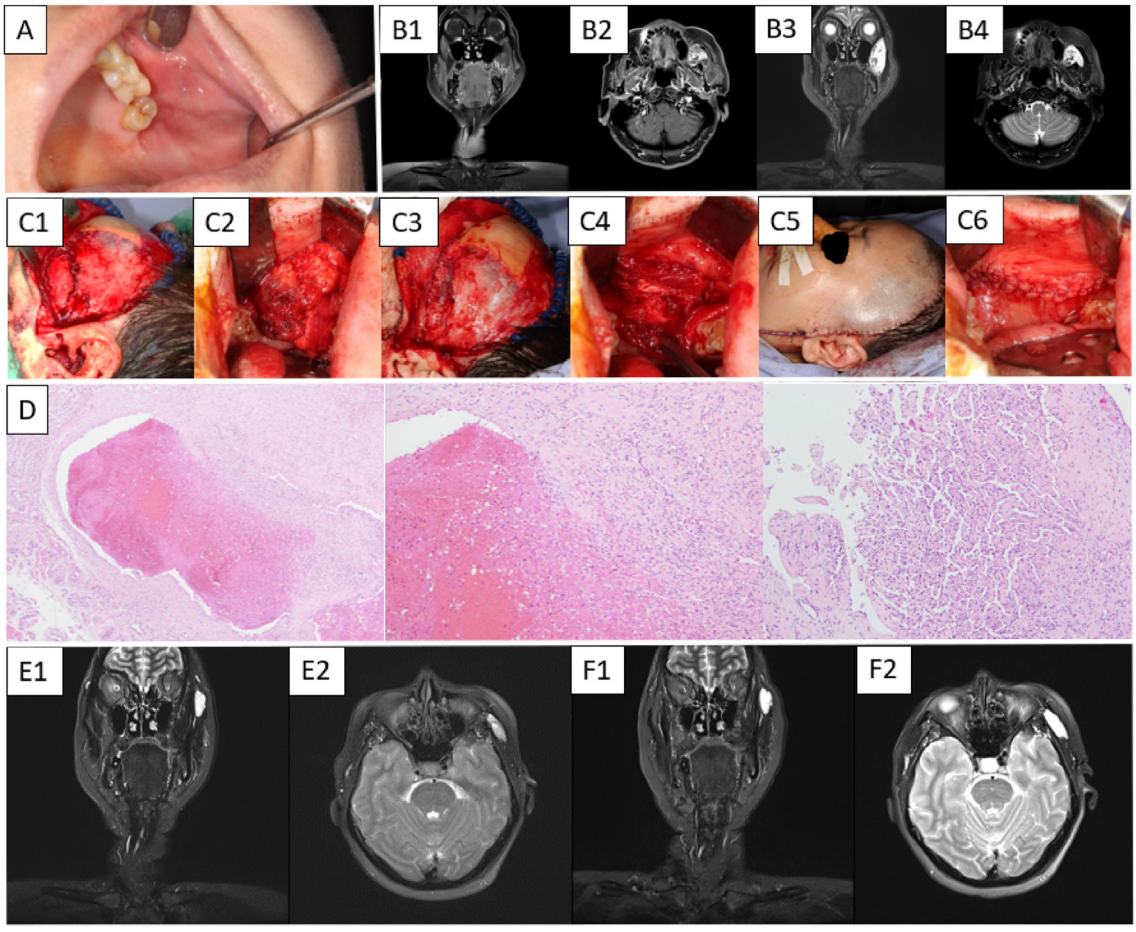

Figure 1 Clinical photographs, histological photomicrographs, and radiographs of this case: (A) Clinical photograph before surgery. (B) MRI radiograph before surgery, B1: coronal view of the contrast-enhanced T1WI; B2: axial view of the contrast-enhanced T1WI; B3: coronal view of T2WI; B4: axial view of T2WI. (C) Photographs of surgical procedures: C1: Extraoral approach by coronal flap elevation; C2: Intraoral approach from anterior border of the left ramus; C3: Extraoral view after the lesion resected; C4: Intraoral view after the lesion resected; C5: Extraoral wound closed and one J-P drain applied; C6: Intraoral wound closed. (D) Microscopic sections showed a lesion composed of papillary hyalinized cores lined by endothelial cells within dilated and anastomosing venous spaces, accompanied by some organizing thrombi. The lining endothelial cells are bland-looking without nuclear atypia (E) MRI taken 6 months after surgery, E1: coronal view of T2WI; E2: axial view of T2WI. (F) MRI taken one and half years after surgery, F1: coronal view of T2WI; F2: axial view of T2WI.

the MRI features of IPEH. To make a differential diagnosis with these MRI features, we should take vascular lesions into consideration, such as hemangiomas or IPEH.

References

1. Tedla M, Bežová M, Biró C, Tedlová E, Eng CY, Zeleník K. Intravascular papillary endothelial hyperplasia of larynx: case report and literature review of all head and neck cases. *Otolaryngol Pol* 2014;68:200—3.
2. Vieira CC, Gomes APN, Galdino DSL, et al. Intravascular papillary endothelial hyperplasia in the oral mucosa and jawbones: a collaborative study of 20 cases and a systematic review. *J Oral Pathol Med* 2021;50:103—13.
3. Makos CP, Nikolaidou AJ. Intravascular papillary endothelial hyperplasia (Masson's tumor) of the oral mucosa. Presentation of two cases and review. *Oral Oncol Extra* 2004;40:59—62.
4. Chen MC, Chiang CP, Chang JYF, Lin HP. Intravascular papillary endothelial hyperplasia in the lower labial mucosa mimicking a mucocele. *J Dent Sci* 2018;13:408—10.
5. Lee SJ, Choo HJ, Park JS, et al. Imaging findings of intravascular papillary endothelial hyperplasia presenting in extremities: correlation with pathological findings. *Skelet Radiol* 2009;39:783—9.

Pei-Ju Chiang
Department of Oral and Maxillofacial Surgery, Wan Fang Hospital, Taipei Medical University, Taipei, Taiwan

Yang-Che Wu
School of Dentistry, College of Oral Medicine, Taipei Medical University, Taipei, Taiwan
Department of Dentistry, Taipei Medical University-Shuang Ho Hospital, Ministry of Health and Welfare, New Taipei City, Taiwan

Kazuyo Kuribayashi Sato
Oral and Maxillofacial Surgery, Division of Oral Pathobiological Science, Faculty of Dental Medicine and Graduate School of Dental Medicine, Hokkaido University, Sapporo, Japan

Chun-Yu Ho*
Department of Oral and Maxillofacial Surgery, Wan Fang Hospital, Taipei Medical University, Taipei, Taiwan
School of Oral Hygiene, College of Oral Medicine, Taipei Medical University, Taipei, Taiwan

*Corresponding author. Department of Oral and Maxillofacial Surgery, Wan Fang Hospital, Taipei Medical University. No. 111, Sec. 3, Xinglong Rd., Wenshan Dist., Taipei 116081, Taiwan.
E-mail address: 99188@w.tmu.edu.tw (C.-Y. Ho)

Received 17 March 2025
Final revision received 10 April 2025
Available online 25 April 2025