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Cavernous Hemangioma with Focal Endothelial Proliferation of the Left Mandibular Vestibule: A Rare Clinicopathological Case Report

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ABSTRACT

Cavernous hemangiomas are slow-flow vascular malformations that may persist beyond childhood and occasionally recur after incomplete involution. Lesions involving the mandibular vestibule are uncommon and may pose diagnostic challenges, especially when located near vital structures such as the mental nerve. A 21-year-old male presented with progressive facial asymmetry due to a recurrent swelling in the left mandibular vestibule. The patient first noticed the lesion at eight years of age and underwent conservative management, resulting in temporary reduction. Clinical examination revealed a compressible, bluish-red lesion with positive diascopy. CECT and MRI findings were suggestive of a slow-flow vascular malformation. Histopathology confirmed cavernous hemangioma with focal endothelial proliferation. The patient underwent complete surgical excision under general anaesthesia. The feeding vessel was identified and cauterised, and the lesion was removed en bloc.The postoperative period was uneventful. At four-week review, the patient demonstrated satisfactory healing without bleeding, infection, neurosensory deficit, or recurrence. This case highlights the importance of correlating clinical, radiologic, and histopathological findings to accurately diagnose vascular lesions in anatomically sensitive areas. Early identification and definitive excision are crucial to prevent long-term functional and aesthetic disturbances.

KEYWORDS: Anchoring; Conditional Inclusion; Diaspora Media; Press; Framing.

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INTRODUCTION

Cavernous hemangiomas are benign, slow-flow vascular malformations composed of dilated endothelial-lined channels. Unlike infantile hemangiomas, which typically regress, cavernous types often persist into adulthood and may recur following incomplete treatment [1]. Their presentation in the mandibular vestibule is uncommon and may be clinically significant due to proximity to the mental nerve. Their clinical relevance lies in diagnostic overlap with other soft tissue lesions and their potential impact on function and esthetics [2,3]. This report presents a rare case of a recurrent cavernous hemangioma with focal endothelial proliferation in a young adult, emphasising the diagnostic and therapeutic considerations.

MATERIALS AND METHODS

Patient Information

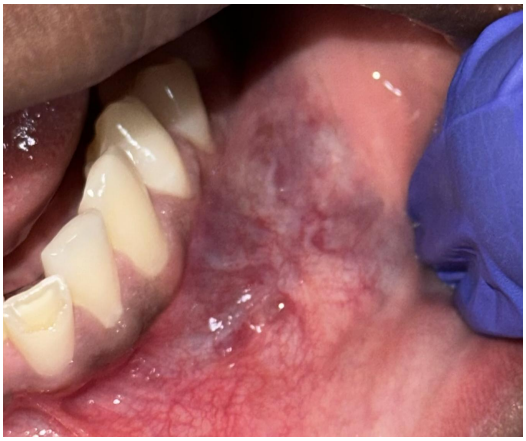
A 21-year-old male presented to the Department of Oral and Maxillofacial Surgery with concerns regarding long-standing swelling on the left side of the lower jaw, resulting in noticeable facial asymmetry.

History of Presenting Illness

The patient first detected a swelling in the left mandibular vestibule at eight years of age. He received conservative treatment, including sclerosing agents and medications, which resulted in temporary regression. After approximately one year, the swelling gradually recurred and remained stable for several years before enlarging again in late adolescence. The lesion was persistent, painless, and non-ulcerated, prompting evaluation at the age of 21.

Clinical Examination

Intraoral examination revealed a well-circumscribed, compressible, bluish-red swelling measuring approximately 32–35 mm in the left mandibular vestibule [FIGURE 1]. The lesion blanched on pressure (positive diascopy) and exhibited a smooth, intact surface. No tenderness, ulceration, or paraesthesia in the distribution of the mental nerve was noted.



Radiological Investigations

CECT demonstrated a non-homogeneously enhancing soft-tissue mass in the left cheek–vestibular region associated with shallow mandibular bone resorption.

MRI revealed characteristics of a slow-flow vascular malformation, with flow voids and tiny lytic areas suggestive of a cavernous hemangioma.

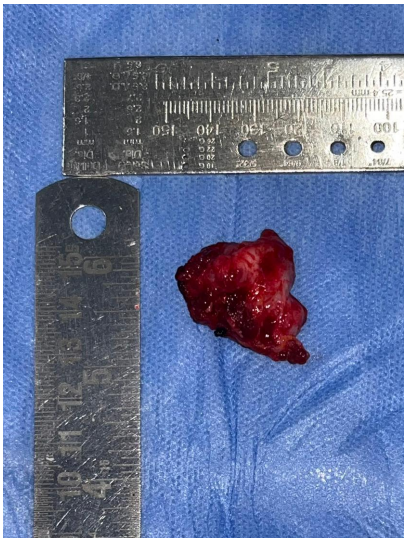
Provisional Diagnosis

Low-flow vascular malformation, likely cavernous hemangioma.

Surgical Procedure

Under general anaesthesia, an excisional approach was undertaken. The feeding vessel was identified and cauterised. The lesion was carefully dissected from surrounding tissues and excised en bloc. The specimen measured 3.2 × 2.5 × 1.4 cm [FIGURE 2].

Haemostasis was achieved, and the wound was closed with 3-0 vicryl sutures. The patient was observed postoperatively for 24 hours and discharged in stable condition with appropriate medications and oral hygiene instructions.



Histopathological Findings

Gross examination revealed a soft-tissue mass, greyish-black in colour, and soft to firm in consistency.

Microscopy demonstrated a lobular lesion composed of large, dilated cavernous vascular spaces lined by flattened endothelial cells. Focal endothelial proliferation indicated active angiogenesis. Lumina contained numerous erythrocytes, with mild chronic inflammatory infiltrate in the stroma. No cellular atypia or abnormal mitotic figures were noted.These features confirmed the diagnosis of cavernous hemangioma with focal endothelial proliferation.

Outcome and Follow-Up

The patient was reviewed weekly for four weeks. Healing was satisfactory, with no evidence of infection, bleeding, or neurosensory changes. No signs of recurrence were noted during the follow-up period. The patient was advised to continue long-term surveillance due to the known recurrence potential of vascular malformations.

RESULTS AND DISCUSSION

Vascular anomalies are traditionally categorised based on biological behaviour and endothelial characteristics into hemangiomas and vascular malformations [4]. Cavernous hemangiomas fall under the latter group and often present during childhood, with some persisting into adulthood [3,5]. Their occurrence in the mandibular vestibule is rare and may present diagnostic challenges, particularly when located near the mental nerve.

Conservative modalities such as sclerosing agents may offer temporary reduction but are associated with recurrence due to incomplete involution [6,7]. In the present case, the patient experienced early improvement but developed progressive enlargement in adolescence, consistent with the behaviour described in the literature[8].

Clinical indicators such as compressibility, bluish-red discolouration, and positive diascopy strongly suggest a vascular origin [9,10,] Radiographic imaging, particularly MRI, provides valuable information regarding flow characteristics and bone involvement [11]. Histopathology remains the gold standard for diagnosis. The presence of dilated vascular spaces and focal endothelial proliferation in this case confirmed the lesion as a cavernous hemangioma rather than a capillary subtype or a neoplasm [12].

Surgical excision is recommended for symptomatic lesions, those causing aesthetic concerns, or those exhibiting recurrence. Complete removal reduces the risk of re-growth and provides definitive tissue for diagnosis. The present case demonstrates excellent healing and short-term stability following complete excision.

CONCLUSION

Cavernous hemangiomas of the mandibular vestibule are rare entities that require careful clinical, radiological, and histopathological correlation for accurate diagnosis. Early identification and definitive surgical management reduce the likelihood of recurrence and associated functional or aesthetic complications [13]. This case reinforces the importance of a multidisciplinary approach in the evaluation and treatment of vascular malformations in anatomically sensitive regions.

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Conflict of interest

No interest, financial relationship, personal relationship, religious or political beliefs influence the objectivity of the author.

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