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Cavernous Hemangioma of the Parotid Gland in Adults

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Abstract | **Case Report**

Cavernous hemangiomas of the parotid gland are rare in adults and represent a diagnostic challenge due to their low prevalence. We report an exceptional case of a 75-year-old woman presenting with a parotid mass evolving for over ten years. An extracapsular parotidectomy confirmed the diagnosis of cavernous hemangioma without malignancy. This article discusses the clinical, radiological, and histological features and management strategies of this rare pathology [1-4].

Keywords: Parotid Gland, Cavernous Hemangioma, Adult, Parotidectomy, Diagnosis.

INTRODUCTION

Parotid gland masses encompass a diverse range of benign and malignant conditions. Among these, cavernous hemangiomas, although frequent in children, are rare in adults. Their diagnosis relies on the integration of clinical, radiological, and histopathological findings. Here, we present a rare case of a parotid cavernous hemangioma in an adult and discuss the diagnostic and therapeutic strategies [3-9].

CASE REPORT

A 75-year-old woman presented with a slowly growing left parotid mass evolving over ten years without associated symptoms. The patient had a medical history of hypertension under treatment and well-controlled diabetes with dietary management.

Clinical examination revealed a 4 × 3 cm well-circumscribed, mobile, and firm mass in the left parotid region without lymphadenopathy. Cervicofacial and intraoral examinations were unremarkable, with no signs of nerve involvement or mucosal abnormalities.

Magnetic resonance imaging (MRI) **(Figure 1)** demonstrated a well-defined encapsulated lesion located in the superficial lobe of the parotid gland. The lesion exhibited hypointensity on T1-weighted images and marked hyperintensity on T2-weighted sequences, with homogeneous enhancement after gadolinium administration, consistent with a benign lesion.

The patient underwent an extracapsular parotidectomy. The postoperative course was uneventful, and the patient was discharged with the resected specimen sent for histopathological analysis **(Figure 2)**. Histology confirmed a cavernous hemangioma without evidence of malignancy.

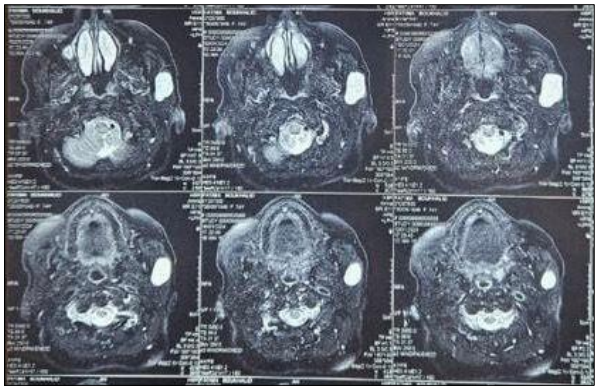

Figure 1: MRI showing the lesion in the left parotid gland

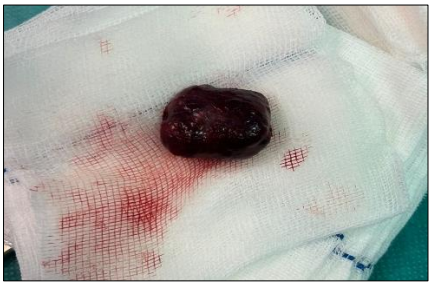

Figure 2: Image of the resected specimen

DISCUSSION

Cavernous hemangiomas are exceedingly rare in adults, accounting for less than 1% of benign parotid tumors. They are more commonly observed in the pediatric population, where they are considered vascular malformations rather than true neoplasms. Their pathogenesis in adults remains unclear but may involve aberrant vascular proliferation or underlying genetic predispositions. Hormonal factors have also been suggested as potential contributors, although concrete evidence is lacking [2-10].

Clinically, cavernous hemangiomas typically present as slow-growing, painless masses. Their prolonged asymptomatic course often delays diagnosis. Unlike malignant tumors, these lesions are generally mobile, well-circumscribed, and do not invade adjacent structures. However, larger lesions may occasionally cause cosmetic deformities or compress adjacent anatomical structures, leading to discomfort or functional impairments [1-4].

Imaging plays a pivotal role in diagnosing parotid gland lesions. MRI is the modality of choice for differentiating benign from malignant masses. Cavernous hemangiomas exhibit characteristic imaging features, including hypointensity on T1-weighted images and marked hyperintensity on T2-weighted images, reflecting their vascular nature. Contrast enhancement further highlights their well-defined encapsulation, distinguishing them from infiltrative lesions such as carcinomas or lymphomas. Doppler ultrasonography may also demonstrate hypervascularity, adding further evidence to the diagnosis.

The differential diagnosis of a parotid mass includes pleomorphic adenoma, the most common benign tumor, as well as Warthin's tumor, mucoepidermoid carcinoma, and lymphomas. Pleomorphic adenomas often have a lobulated appearance with heterogeneous enhancement, while Warthin's tumors demonstrate cystic components and intense uptake on technetium-99m pertechnetate scintigraphy. These imaging features aid in narrowing the diagnostic possibilities, but histopathological evaluation remains essential for definitive diagnosis.

Surgical excision remains the cornerstone of treatment for cavernous hemangiomas. Extracapsular parotidectomy allows complete removal while preserving facial nerve function. In this case, surgery was curative, and the patient recovered without complications. The absence of recurrence further underscores the efficacy of complete excision. Facial nerve monitoring during surgery is critical to avoid iatrogenic injury, particularly in cases where the mass is located near nerve branches [5-7].

Although benign, these lesions require careful management due to potential complications, including intraoperative bleeding, postoperative hematoma, and rare recurrence. Preoperative embolization has been proposed in select cases of highly vascular hemangiomas to minimize intraoperative blood loss. Furthermore, adjunctive treatments, such as sclerotherapy or laser ablation, may be considered in specific scenarios, particularly for non-resectable lesions or patients unfit for surgery.

Long-term prognosis is excellent following complete excision, with minimal risk of recurrence or malignant transformation. Continued follow-up is recommended to monitor for any signs of recurrence, particularly in cases with incomplete excision or ambiguous histopathological findings [6].

This case adds to the limited literature on adult cavernous hemangiomas of the parotid gland and underscores the importance of a multidisciplinary approach to achieve optimal outcomes. Further research is needed to elucidate the pathophysiology of these rare lesions and refine management protocols.

CONCLUSION

Cavernous hemangiomas of the parotid gland are exceptionally rare in adults. This case highlights the importance of a multidisciplinary approach, combining detailed clinical assessment, advanced imaging, and histopathological confirmation. Surgical excision remains the definitive treatment, offering excellent outcomes and a favorable prognosis [1-4].

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