Rich Fat Hemangioma of the Parotid Gland in the Adult: A Rare Case Report

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Abstract

Hemangiomas are relatively rare tumors representing approximately 0.4% of all the salivary gland tumors and occur predominantly in the parotid. Most of the hemangiomas appear during the first year of life; however, are uncommon in adults. Moreover, the rich fat hemangiomas in the parotid are extremely rare. We report a case of a 58-year-old man with a mass under the left ear with persistent discomfort and swelling on the left parotid region. During surgery, the macroscopic appearance represented the presence of fat ingredients with the proliferative vascular lesion. The further histopathological evaluation revealed fat-rich hemangiomas. The typical clinical presentation of parotid hemangiomas is asymptomatic soft tissue swelling. Besides, facial asymmetry and the adjacent skin lesion characterized by reddish macules along the growth of mass. In the magnetic resonance imaging, hemangiomas exhibited a lobulated lesion and homogenous enhancement and flow-void with contrast. In conclusion, our case highlights the significance of clinical, radiographic, and histopathological evaluation for the precise diagnosis of the parotid hemangioma, particularly in adults.

Case Report

A 58-year-old male patient presented with a facial mass under the left ear. The patient expressed no specific family history. Physical examination revealed an elastic, painless, non-fluctuating, non-pulsatile mass with a maximum diameter of 3×2×1 cm in the left parotid gland region without any characteristic skin alterations. However, the findings of laboratory investigations were inconclusive. In the magnetic resonance imaging (MRI), an irregular lobulated mass measuring 4.7×2.7×2.1 cm at the superficial lobe of the parotid gland was revealed. Hemangioma appeared as a well-circumscribed mass, slightly hyperintense on T1-weighted imaging, markedly hyperintense on T2-weighted imaging, nodular hypointense with fat suppression T2-weighted imaging, and spots like central enhancement after intravenous contrast administration.

Initially, based on clinical and radiological findings, benign tumor, a lipoma, was suspected. Subsequently, the left superficial parotidectomy was performed. During the surgical resection, a yellow and light red tissue was resected. The histopathological examination reported a well-defined fat rich mass with vascular proliferation establishing the diagnosis of fat rich hemangioma of the parotid gland. The patient was asymptomatic, with a favorable clinical course, and no tumor recurrence was noted after six month of follow-up.

Discussion

Hemangiomas are the benign, localized tumors of vascular origin, characterized by rapid proliferation of blood vessels lined by endothelial cells. Parotid hemangiomas account for 0.4%-0.6% of all tumors of the parotid gland [1] and occur most frequently in children, and are relatively more common in female [2]. However, the majority of them could have entirely before the age of 7. Therefore, the hemangiomas in adults are extremely rare which may be attributed to the prolongation of tumor regression [3]. The typical clinical presentation of parotid hemangiomas is the presence of asymptomatic soft tissue swellings at the parotid region. Besides, facial asymmetry associated with or not with skin lesion marked by reddish macules and papules. On the physical examination, the mass may be fluctuant when palpating the parotid lesion. Moreover, the parotid hemangiomas have been demonstrated to involve the superficial lobe as well as deep lobe; besides, some are segmental in distribution. Morphologically, the tumor is irregular, lobulated, and without envelope [2]. With high soft tissue resolution, multi-sequence, multi-parameter imaging, MRI has been recommended as the most reliable diagnostic imaging technique for the diagnosis of parotid tumors [4]. Hemangiomas exhibited a lobulated lesion with the intermediate signal on T1-weighted imaging, hyperintense on T2-weighted imaging, and homogeneous enhancement and flow-void with contrast.

In the present case, the mass comprised of almost entirely of lipid constituents which appeared as hypointense with fat suppression T2-weighted imaging. Based on this characteristic, it was challenging to differentiate hemangioma from lipoma. Thus, flow-void was the only differentiating feature between them. Though parotid hemangiomas could have lipid constituents, it was extremely rare to report hemangiomas primarily based on the fat contents. Possibly, could be due to the prolongation of the regeneration period, the decrease of endothelial cells and the increase of fat content.

In conclusion, we report a rare case of the parotid hemangioma in the adult with fatty changes. Furthermore, our case highlights the significance of clinical, radiographic, and histopathological evaluation for the precise diagnosis of the parotid hemangioma, particularly in adults.

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Figure 1: MRI T1 revealed a clear bordered, slight hyperintense tumor with hypointense in the left superficial lobe of the parotid gland. Figure 2: MRI T2 showed the same image; however, the tumor was hyperintense with a hypointense signal representing vascular lesion. Figure 3: Fat suppression T2 imaging exhibited hypointense tumor. Figure 4 & Figure 5: MRI T1 with contrast showed the same image but with spot like enhancement of the tumor. Figure 6: The microscopic image revealed a salivary gland tissue filled with adipose tissue representing vascular proliferation (H&E 45X).

Competing Interests

The authors have no competing interests with the work presented in this manuscript.

References