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Angiomyxolipoma of the Forehead: A Case Report and Review of the Literature

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Abstract

Angiomyxolipoma is a rare, benign soft tissue tumor characterised by the presence of mature adipose tissue, myxoid stroma, and a prominent vascular component. This case report details the clinical presentation, histopathological features, treatment, and follow-up of a 59-year-old male patient diagnosed with angiomyxolipoma of the forehead.

Introduction

Angiomyxolipoma is a rare benign soft tissue tumor first described by Fletcher et al. in 1996 [1]. It is histologically distinct due to its combination of mature adipose tissue, myxoid stroma, and vascular elements. Given its rarity, limited literature exists on its clinical behavior, optimal management, and long-term outcomes. This case report and accompanying literature review aim to consolidate current knowledge on angiomyxolipoma, emphasising its histopathological features, diagnostic challenges, treatment modalities, and prognostic implications.

Case presentation

Patient information

A 59-year-old male presented to the surgical clinic with a painless, progressively enlarging mass on his forehead. The patient reported noticing the mass approximately five months prior to presentation. There was no history of trauma or significant past medical history.

Clinical findings

On physical examination, the mass was approximately 1.5 cm in diameter, soft, non-tender, and mobile. The overlying skin was intact with no signs of ulceration or infection. No regional lymphadenopathy was noted.

Diagnostic assessment

Initial differential diagnoses included lipoma, dermoid cyst, and other benign soft tissue tumors. An ultrasound examination revealed a well-circumscribed, hypoechoic lesion with increased vascularity.

The patient underwent surgical excision of the mass under local anesthesia. The resected specimen was sent for histopathological examination. Macroscopic analysis revealed an encapsulated fatty nodule measuring 15 mm x 14 mm x 5 mm. On sectioning, it had a homogeneous yellow cut surface. Microscopic analysis showed a lipoma that comprised mature adipocytes with marked myxoid stromal change supporting a delicate vas-

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cular framework. There was no evidence of atypia or malignancy. These findings confirmed the diagnosis of angiomyxolipoma.

Complete surgical excision was performed with clear margins. The postoperative course was uneventful, and the patient was discharged on the same day.

Literature review

Histopathological features

Angiomyxolipomas are histologically distinct due to their unique combination of adipose tissue, myxoid stroma, and vascular elements. The adipose component is composed of mature adipocytes, similar to those seen in conventional lipomas. The myxoid stroma is rich in mucopolysaccharides, providing a gelatinous consistency and supporting a loose, myxoid background. The vascular component includes numerous capillaries and small blood vessels, which may be irregularly distributed or form a more organized network. Immunohistochemical staining typically reveals positivity for CD34 in the endothelial cells of the vascular component and S-100 protein in adipocytes, aiding in differentiating angiomyxolipoma from other soft tissue tumors such as myxoid liposarcoma and myxoid solitary fibrous tumors [2].

Clinical presentation and diagnostic challenges

Angiomyxolipomas usually present as painless, slow-growing masses. They can occur in various anatomical locations, with previous cases reported in the trunk, extremities, and retroperitoneum. The forehead location, as presented in this case report, is exceptionally rare with only one documented case to date up to our knowledge [3]. The most frequent location was in the extremities [4]. This lesion is found to be ten times more common in men, with the most common age group being the fifth to sixth decade of life [5]. Due to the nonspecific clinical and radiological features, angiomyxolipomas are often misdiagnosed preoperatively. Imaging modalities such as ultrasound and MRI can reveal a well-circumscribed, hypoechoic lesion with increased vascularity and myxoid characteristics, but these findings are not pathognomonic. Hence, histopathological examination remains the definitive diagnostic tool.

Differential diagnosis

The differential diagnosis for angiomyxolipoma includes other benign and malignant soft tissue tumors. Lipomas, the most common soft tissue tumors, are composed solely of adipose tissue without a myxoid or vascular component. Myxoid liposarcomas, while having a myxoid background and adipocytic differentiation, display significant cellular atypia and a distinct plexiform vascular pattern, unlike the benign vascular proliferation seen in angiomyxolipoma. Myxoid solitary fibrous tumors also have a prominent myxoid stroma and vascular pattern but lack the mature adipose tissue characteristic of angiomyxolipoma [6]. Accurate differentiation through histopathological and immunohistochemical analysis is essential for appropriate management.

Treatment and prognosis

The treatment of choice for angiomyxolipoma is complete surgical excision [3]. Due to its benign nature, complete resection with clear margins generally results in an excellent prognosis with a low risk of recurrence. There have been no reports of malignant transformation or metastasis in angiomyxolipoma, reinforcing its classification as a benign neoplasm. However, long-term follow-up is recommended to monitor for any signs of recurrence, particularly in cases where excision margins are uncertain.

Conclusion

Angiomyxolipoma is a rare but distinct benign soft tissue tumor that should be considered in the differential diagnosis of soft tissue masses. Its unique histopathological features necessitate careful examination to avoid misdiagnosis and ensure appropriate treatment. Complete surgical excision remains the definitive treatment, offering excellent prognosis. Continued documentation and reporting of angiomyxolipoma cases will enhance understanding and management of this uncommon tumour, providing valuable insights into its clinical behaviour and long-term outcomes.

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