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CASE REPORT

Subcutaneous Angiolipoma of the Forearm- A Distinct Rare Entity of a Common Variant

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Abstract

Lipomas are commonest benign mesenchymal neoplasms. Angiolipoma is a rare variant of usual lipomas characterized by adipocytes and vascular channels most frequently arising in the lower extremity. We report a rare case of a young male presenting with multiple deep painful nodules over the mid forearm which on histopathological examination revealed encapsulated benign tumour comprising of proliferating small-calibre vascular channels with microthrombi and mature adipose tissue.

Key Words

Angiolipoma, Mesenchymal, Lipoma, Subcutaneous

Introduction

Angiolipomas are very rare, benign well encapsulated circumscribed subcutaneous lesions consisting of mature adipocytes intermingled with small and thin calibre blood vessels, many of which contain characteristic fibrin thrombi.[1] These lesions clinically present with sudden onset of multiple soft to firm tender nodules which usually not responding to analgesics. We herein, report a case of a young male, presenting with multiple deep painful nodules over the mid forearm which on histopathological examination revealed, encapsulated benign tumour, comprising of proliferated small vascular channels with microthrombi and variable amounts of mature adipose tissue.

Case report

A 26 year old young male complained of painful enlarging subcutaneous swelling on left mid forearm noticed eight months back. On Physical examination the swelling was soft, mildly tender measuring nearly 2x2 cm. A clinical diagnosis of Lipoma was suspected.The lesion was excised and sent to us for histopathology. Grossly, we received an irregular globular skin covered partially capsulated grey white tissue piece measuring 1.5x1.2x 0.8cm. On cut section homogenous whitish yellowish areas were seen with foci of haemorrhage.(*Fig 1*)On microscopy, sections taken revealed a focally encapsulated benign neoplasm composed of complete and incomplete lobules of mature adipocytes along with many proliferating variable calibre vascular channels (*Fig 2,3*) containing fibrin thrombi in many of the vessels. (*Fig 4*). Focal interstitial fibrosis was noted. No evidence of granuloma/ atypia or malignancy was observed. Histopathological features were compatible with Angiolipoma.

Discussion

Angiolipoma, a histological subtype of a common benign tumor lipoma was first reported by Bowen in

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Fig 1. Gross Picture of Resected Globular Tumor with Homogenous Whitish Yellowish Areas with Brownish Foci

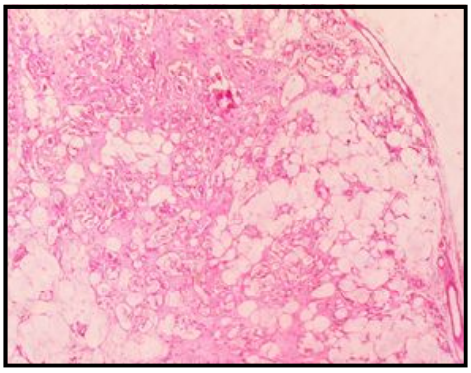

Fig 2.Photomicrograph with Low Power View of a Benign Adipocytic Neoplasm with Evident Small to Medium Sized Blood Vessels. (10x, H&E)

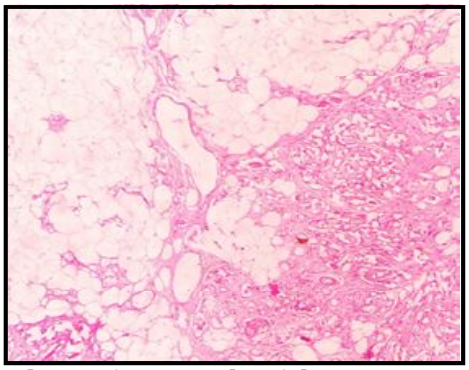

Fig 3. Photomicrograph with Low Power view Showing Clusters of Variable Calibre Blood Vessels with Mature Adipose Tissue. (10x, H&E)

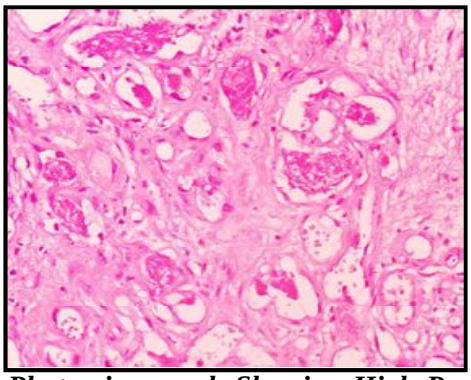

Fig 4. Photomicrograph Showing High Power view of the Lesion with Variable Sized Vessels Containing Fibrin Thrombi in lumen. (40x, H&E)

1912.[2] Lipoma which have a prominent vascular component of the connective tissue septa are classified as angiolipoma. Angiolipomas account for about 6-17% of all lipomatous lesions.[3] Angiolipoma present with multiple lesions in about 70-80% cases.

Gonzalez-Crussi et al. classified angiolipomas into two categories, infiltrating and non-infiltrating types.[4]

Clinically, angiolipomas usually present as multiple small slow-growing, subcutaneous nodules usually tender to extremely painful with commonest site being the extremities followed by the trunk. They commonly appear in the second decade or early third decade of life.[5]

Howard and Helming in their review of 288 cases of angiolipoma suggested that average age of onset was 17 years, all of which were seen to occur in the trunk and extremities.[6]

There is a slight male predominance and familial incidence has been described in nearly 5% of the all cases of angiolipomas with mode of inheritance to be autosomal dominant in majority of cases.[7]

The pathogenesis of angiolipoma is controversial. As most of the lesions occur in areas subjected to repeated pressure or irritation, trauma has been suggested as a possible etiological factor. Various theories proposed include differentiation of lipoma due to unknown stimulus, fatty metamorphosis of a haemangioma, and hyperplasia of fat with an increase in blood vessels. However, the most accepted concept is the origin of angiolipoma as a congenital lipoma gradually undergoing vascular proliferation.

Macroscopically, angiolipomas typically are encapsulated, yellowish to reddish nodules. Histopathologically, angiolipomas are well circumscribed and encapsulated comprising of admixture of two elements i.e mature adipocytes in lobules separated by thin fibrous septa and branching capillary sized vessels often containing fibrin thrombi and prominent vascularity in the periphery. In some lesions the relative proportion of adipocytes and vessels varies and may even be completely composed of vascular channels.[8]

The main differential diagnosis of angiolipoma includes benign lesions such as haemangioma, lymphangioma, lipoma, organized muscle, to even malignant lesions kaposi

sarcoma, and angiosarcoma. [9] Angiolipomas are always benign and shows no tendency to recur. Use of imaging modalities aid the surgeon to localize and make a first differential diagnosis although definitive diagnosis is achieved by histopathology and can differ from clinical diagnosis, which occurred in the case presented. Following the histopathology diagnosis, wide local excision with free margins is the suitable treatment for subcutaneous angiolipoma.

Surgical excision is curative for noninfiltrating lesions, as the recurrence rate is very low if excision is adequate. Careful dissection must be achieved to avoid damage to the surrounding structures. Moreover, the surgeon should bear in mind that hemostasis is crucial due to the blood vessels inside and surrounding the lesion. The overall prognosis for angiolipoma is good, as no malignant potential transformation has been reported.[10] However, these benign tumors do not spontaneously regress and can become larger, tenderer, and more cosmetically disfiguring.

Conclusion

To conclude angiolipoma though rare, must be considered as one of the differential diagnosis of soft tissue masses especially on extremities and use of imaging modalities, such as USG, FNA, contrast-enhanced CT and MRI, can aid the surgeon to localize and make careful dissection to avoid damage to surrounding structures and achieve proper hemostasis.

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Conflicts of Interest
There are no conflicts of interest.

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