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CASE REPORT

Multiple Angiolipomas with Prominent Truncal Involvement: A Rare Distribution Pattern

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ABSTRACT

Angiolipoma is a benign variant of lipoma characterized by a prominent vascular component and is typically associated with painful subcutaneous nodules. While solitary angiolipomas are common, multiple lesions are relatively uncommon and usually involve the extremities. Truncal predominance is rarely emphasized in literature. We report a case of a 30-year-old male presenting with multiple, non-tender subcutaneous swellings predominantly involving the trunk and forearm. Ultrasonography suggested benign lipomatous lesions; however, histopathological examination revealed features consistent with angiolipoma. This case highlights an unusual distribution pattern and absence of pain, leading to a diagnostic dilemma. Awareness of such atypical presentations is important to avoid misdiagnosis and ensure appropriate management.

KEYWORDS

• Angiolipoma • Multiple angiolipomas • Truncal involvement • Lipomatous lesions • Histopathology

INTRODUCTION

Angiolipoma is a benign adipocytic tumor first described as a distinct entity due to its prominent vascular component.[1] It is considered a variant of lipoma and accounts for approximately 5–17% of all lipomatous

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tumors. Clinically, angiolipomas typically present as small, painful subcutaneous nodules, most commonly affecting young adults, with a predilection for the forearms and trunk. Angiolipomas are broadly classified into solitary and multiple forms. While solitary angiolipomas are relatively common, multiple angiolipomas are less frequently encountered and may occur sporadically or as part of familial angiolipomatosis.[2] The lesions are usually distributed over the upper extremities and are often associated with tenderness, which serves as an important clinical clue.[3] However, atypical presentations in terms of distribution, size, and symptomatology may pose diagnostic challenges. In particular, predominant truncal involvement and absence of pain are unusual and can mimic other benign lipomatous conditions such as multiple lipomatosis.[4,5]

We present a case of multiple angiolipomas with prominent truncal involvement in a young adult male, highlighting the atypical clinical presentation and the importance of histopathological evaluation in establishing the diagnosis.

CASE REPORT

A 30-year-old male presented with complaints of multiple swellings over various parts of the body, progressively increasing in size over a period of several months. The patient did not report any history of trauma, weight loss, fever, or systemic symptoms. There was no significant past medical or family history of similar lesions. On physical examination, multiple subcutaneous nodules were noted over the trunk and right forearm. The swellings were well-circumscribed, firm in consistency, freely mobile, and notably non-tender on palpation. The overlying skin appeared normal, with no signs of inflammation or ulceration.

The largest swelling, measuring approximately 5 × 5 cm, was located over the upper abdominal quadrant. Another prominent lesion measuring 4 × 4 cm was identified over the right forearm. The remainder of the lesions were smaller in size, ranging from 1 to 3 cm in diameter.Routine laboratory investigations were within normal limits. Ultrasonography (USG) of the swellings revealed multiple well-defined hyperechoic nodules within the subcutaneous plane. Some lesions demonstrated mild internal vascularity on Doppler imaging. Based on these findings, a provisional diagnosis of benign lipomatous lesions was considered. Given the increasing size and multiplicity of the lesions, surgical excision of the largest abdominal swelling and one representative lesion from the right forearm was performed. The excised specimens were sent for histopathological examination.

Gross and Microscopic Examination

The excised specimens consisted of well-circumscribed, encapsulated soft tissue masses. The cut surface was yellowish and lobulated [Figure 1]. Histopathological examination revealed a well-circumscribed lesion composed predominantly of mature adipocytes arranged in lobules [Figure 2, 3]. Interspersed within the adipose tissue were numerous proliferating capillary-sized blood vessels. Many of these vascular channels contained fibrin thrombi, a characteristic feature of angiolipoma [Figure 4]. The vessels were lined by flattened endothelial cells without atypia. No evidence of malignancy, lipoblasts, or significant cellular atypia was identified. The findings were consistent with a diagnosis of **angiolipoma**.

Figure 1: Gross appearance of excised specimen shows Well-circumscribed, encapsulated soft tissue mass with a yellowish lobulated cut surface

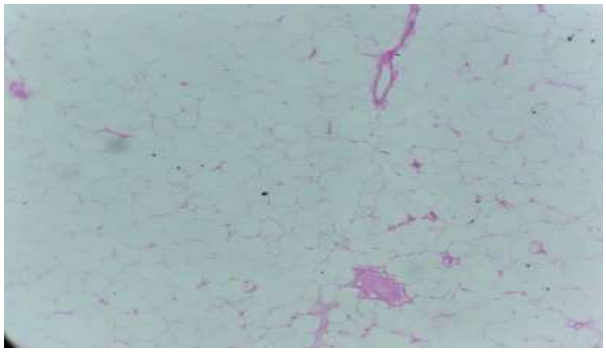

Figure 2: Photomicrograph showing a well-circumscribed lesion composed of mature adipocytes arranged in lobules (H&E,40×).

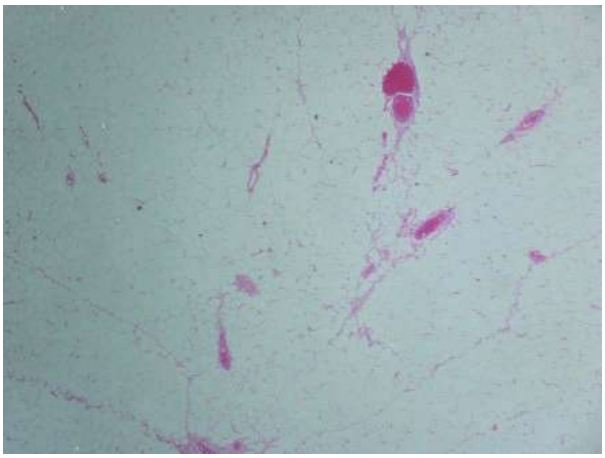

Figure 3: Photomicrograph demonstrating proliferating capillary-sized vessels with fibrin thrombi within lumina, a characteristic feature of angiolipoma (H&E, 40×).

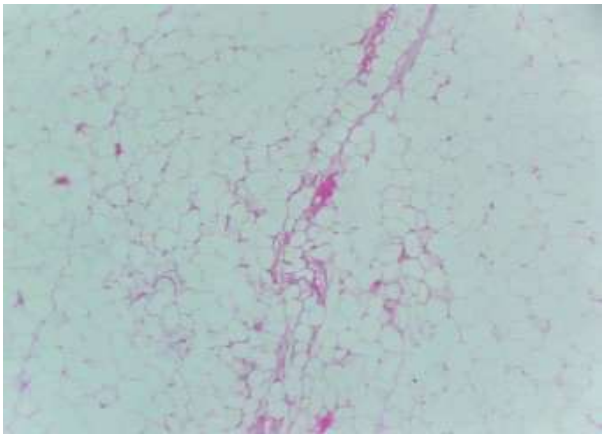

Figure 4: Photomicrograph showing a well-circumscribed lesion composed of mature adipocytes arranged in lobules interspersed with numerous capillary-sized vascular channels (H&E, 40×).

DISCUSSION

Angiolipoma is a benign soft tissue tumor characterized by the admixture of mature adipose tissue and a prominent vascular component, and it is regarded as a distinct variant of lipoma due to its unique clinicopathological features.[6,7] It commonly affects young adults, typically presenting in the second to fourth decades of life, with a slight male predominance. Clinically, angiolipomas are usually small, subcutaneous nodules that are often painful, a feature attributed to vascular congestion and the presence of microthrombi within the lesion. The most frequent sites of involvement include the forearms, upper arms, and trunk, although the lesions are more commonly concentrated over the extremities.[8,9]

Atypical Features in the Present Case

Angiolipomas may present as solitary or multiple lesions, with the solitary form being more frequently encountered. Multiple angiolipomas are relatively uncommon and may occur either sporadically or as part of familial angiolipomatosis, which follows an autosomal dominant pattern of inheritance.[10,11] In the present case, there was no family history of similar lesions, suggesting a sporadic occurrence. The multiplicity of lesions in this patient, coupled with their gradual increase in size, aligns with previously described patterns; however, the distribution and clinical presentation showed notable deviations from the classical description.

A striking feature of this case was the prominent truncal involvement, including a relatively large lesion over the upper abdomen. Although angiolipomas can involve the trunk, the literature more commonly emphasizes their occurrence in the extremities, particularly the forearms.[12,13] The predominance of truncal lesions in this patient represents an atypical distribution pattern and may lead to diagnostic confusion with conditions such as multiple lipomatosis, where lesions are often painless and widely distributed.

Another unusual aspect was the complete absence of pain or tenderness in the lesions. Pain is considered a hallmark clinical feature of angiolipomas and often serves as a useful distinguishing factor from conventional lipomas.[5,11] The lack of this characteristic symptom in the present case contributed to the initial clinical impression of benign lipomatous lesions, underscoring the variability in clinical presentation and the potential for misdiagnosis.

Diagnostic Evaluation and Histopathological Correlation

Radiologically, ultrasonography typically demonstrates well-defined, hyperechoic subcutaneous nodules consistent with lipomatous lesions. The presence of internal vascularity on Doppler imaging may suggest angiolipoma; however, these findings are not specific and often overlap with other benign entities. In this case, ultrasonographic evaluation favored a diagnosis of lipoma, highlighting the limitations of imaging modalities in accurately differentiating angiolipoma from other lipomatous tumors.

Histopathological examination remains the gold standard for definitive diagnosis.[13] The characteristic microscopic features include lobules of mature adipocytes interspersed with numerous capillary-sized blood vessels. The presence of fibrin thrombi within the vascular lumina is a particularly distinctive feature and serves as a key diagnostic criterion for angiolipoma. In the present case, these classic histopathological findings confirmed the diagnosis and helped resolve the clinical and radiological ambiguity.

The differential diagnosis of multiple subcutaneous nodules includes conventional lipoma, hemangioma, angiolipomatosis, and Dercum's disease.[9,10] Lipomas lack the prominent vascular component and fibrin thrombi seen in angiolipomas, while hemangiomas are primarily vascular lesions with minimal adipose tissue. Dercum's disease is characterized by multiple painful lipomas associated with systemic symptoms such as obesity and fatigue, which were not observed in this patient. Thus, histopathological evaluation plays a crucial role in distinguishing these entities.

Management of angiolipoma primarily involves surgical excision, which is both diagnostic and therapeutic.[4,12] Non-infiltrating angiolipomas, as seen in this case, are well-circumscribed and have an excellent prognosis following excision, with a very low risk of recurrence. In cases with multiple lesions, treatment is usually guided by symptoms, cosmetic concerns, and patient preference.

CONCLUSION

This case highlights an uncommon presentation of multiple angiolipomas with predominant truncal involvement and absence of pain, deviating from the classical clinical profile of this entity. Such atypical features can lead to diagnostic confusion with other benign lipomatous conditions, particularly multiple lipomatosis. The case underscores the limitations of clinical and radiological evaluation alone and reinforces the pivotal role of histopathological examination in establishing a definitive diagnosis. Recognition of these unusual presentations is essential for accurate diagnosis, appropriate management, and avoidance of unnecessary clinical uncertainty.

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