



"FAT NECROSIS IN AXILLARY LIPOMA POST-FNAC IN A PREGNANT FEMALE"

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KEYWORDS :

PRESENTATION OF CASE

Lipomas are benign soft tissue tumors having mature adipose tissue. These lesions are the most common soft tissue tumor, making up approximately 50% of all soft tissue tumors.^[1] Lipomas are mostly located within the superficial soft tissues of the extremities, back, and neck. These lesions are asymptomatic, but due to the superficial location, these lesions commonly present less than 5 cm in size.^[2] Lipomas deep to the superficial fascia also occur but are rare. These lesions may be intramuscular or intermuscular and mostly occur in the lower extremity. Following accidental trauma fat necrosis can be seen, and the patient presents with pain at the site of lipoma with discoloration of the skin. It can be confidently diagnosed on ultrasonography, without further need for any investigation. Here, we are discussing USG, Doppler, and Strain Elastography imaging findings in a pregnant lady having fat necrosis within axillary lipoma.

CASE REPORT

Lipoma is a relatively common benign lesion and can arise from anywhere in the body. Fat necrosis is common following accidental trauma. This is a case of a 32 years old pregnant female who presented with swelling in the right axilla which was mobile on palpation and an FNAC was done for evaluation purposes. Following this, she developed pain and discoloration of adjacent skin along with a palpable slightly tender nodule.

DISCUSSION

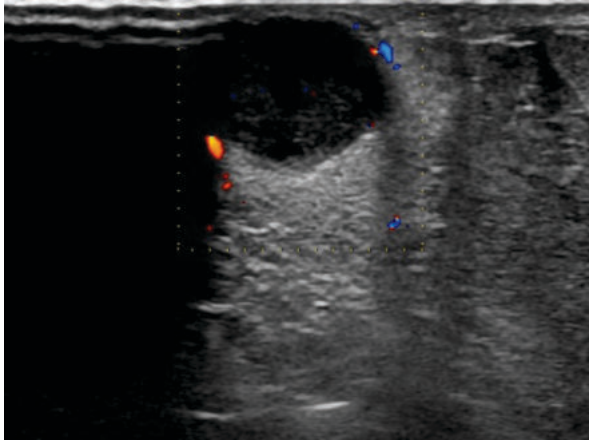
Lipoma on sonography is seen as a well-defined, oblong, echogenic mass without posterior acoustic enhancement. In the larger lesions, fine linear striations may be seen parallel to the skin.^[3] Deep Lipomas are isoechoic or hyperechoic to the adjacent muscle with posterior acoustic enhancement due to the greater acoustic transmission within fat compared to muscle. Lipomas are commonly located in a subcutaneous fatty layer but can be located anywhere, including the intramuscular areas of the axilla and the echogenicity is somewhat variable.^[4] On non-contrast CT, the classic appearance of a lipoma is a well-defined, circumscribed, homogeneously low (fat) density mass ranging from -120 to -65 Hounsfield units.^[5] Similarly, the characteristic lipoma is an encapsulated lesion that is isointense to the subcutaneous fat on all MRI sequences.^[6] Intramuscular lipoma may not be encapsulated and instead may insinuate within the skeletal muscle. Many lipomas demonstrate thin internal septa. These septa are usually non-enhancing in benign lipomas compared to marked enhancement in well-differentiated liposarcomas.^[7] Though the septa are usually less than 2 mm, thick and nodular septa have also been reported.

Fat necrosis within lipoma should be suspected when there is a history of trauma. The sonographic appearances of fat necrosis are varied and reflect the degree of fibrosis. Fat necrosis may present as any of the following: a solid mass, a complex mass with mural nodules, a complex mass with echogenic bands, an anechoic mass with posterior acoustic enhancement, and an anechoic mass with shadowing,^[8] or an isoechoic mass.^[9] The margins range from well-circumscribed

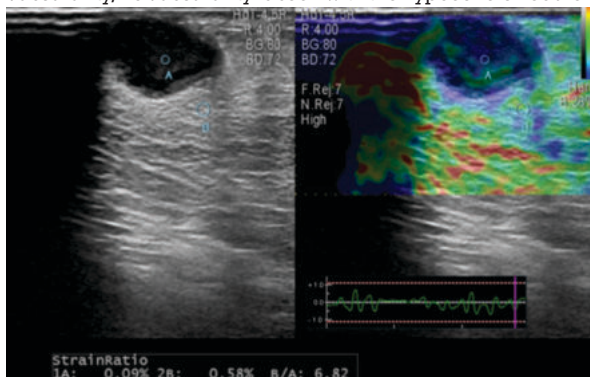
to indistinct or can be speculated. A mass with echogenic internal bands that shift in orientation with the change in patient position has been described as a characteristic sonographic indicator of fat necrosis. These bands mostly represent the interface between the lipid and the serous-hemorrhagic components of fat necrosis.^[10] On mammography -features of lipoma with central fat necrosis are characteristic. Lipoma appears as a round or oval radiolucent mass with a well-defined thin capsule. Mammography is the most accurate diagnostic tool for early fat necrosis.^[11] It appears as more often unique or multiple, round or oval, smooth-bordered lucent mass with a thin rim that may show eggshell calcifications. Fat-fluid levels are due to oil and serosanguinous fluid layering. The benign lucent-centered calcification is a characteristic in the late stage. It may show spiculated margins and cause retraction of the skin.^[12] On elastography, Itoh et al described a scoring system for soft tissue masses-A score of 1 indicates even strain for the entire hypoechoic lesion -the entire lesion was evenly shaded in green. A score of 2 indicates strain in most of the hypoechoic lesions, with some areas of no strain- the hypoechoic lesion had a mosaic pattern of green and blue. A score of 3 indicated strain at the periphery of the hypoechoic lesion, with sparing of the center of the mass - the peripheral part of the lesion was green, and the central part was blue. A score of 4 indicated no strain in the entire hypoechoic lesion - the entire lesion was blue, but its surrounding area was not included. A score of 5 indicated no strain in the entire hypoechoic lesion or the surrounding area.^[13] In this case, the lesion showed a mosaic pattern with the central part showing blue and green areas suggestive of a score of 2. On MRI - Fat necrosis can show variable enhancement, depending on the inflammatory process. The high signal of fat interferes with the detection of enhancing lesions. Thus, it is important to identify regions of fat necrosis on fat suppressions sequences on MRI.^[10]



The grayscale ultrasonography image shows a heterogeneously hyperechoic well defined circumscribed mass lesion with internal hyperechoic strands suggestive of lipoma. There is a heterogeneously hypoechoic nodule noted within the lesion suggestive of fat necrosis. The patient had a history of FNAC taken from that site.



Color Doppler of the lesion shows minimal peripheral vascularity, no vascularity is seen with the hypoechoic nodule



Elastography of the mass, shows a score of 2 having a strain ratio of 6.82 with a mosaic pattern in the hypoechoic lesion

CONCLUSIONS

To conclude fat necrosis in a lipoma is unusual but it can occur following trauma. USG and elastography are sensitive modalities in the diagnosis and management of this condition.

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