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Rare Case of Lipoma Necrosis Mimicking Liposarcoma: Case Report

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Abstract **Case Report**

A lipoma is one of the most common benign tumours and can develop at any location in the body. However, cases of necrotic lipoma are rarely described and imaging findings of necrotic lipomas is scarce. In the present case, we describe the case of a 59-year-old woman with necrotic lipoma in the right side of her neck, which mimic liposarcoma on imaging.

Keywords: lipoma, tumours, imaging, neck.

INTRODUCTION

Fat necrosis within large lipomas is described in literature, but remains rare [1]. Clinically the patient may be asymptomatic or may present such symptoms as pain, skin induration, ecchymosis, skin retraction, or skin thickening. A variety of causes of fat necrosis have been reported, including trauma, collagen vascular disease, myeloproliferative disorders, and complications of pancreatic disorders such as in disseminated fat necrosis [2].

Lesions may have a variable appearance on imaging, ranging from small, spiculated, non encapsulated lesions to large, encapsulated mass-like lesions, necessitating differentiation from malignant soft tissue tumors.

We present a case of lipoma necrosis of the neck initially felt to be suspicious for a liposarcoma.

A lipoma is one of the most common benign tumours and can develop at any location in the body. However, cases of necrotic lipoma are rarely described and imaging findings of necrotic lipomas is scarce. In the present case, we describe the case of a 59-year-old woman with necrotic lipoma in the right side of her neck, which mimic liposarcoma on imaging.

CASE REPORT

A 59-year-old woman presented with a 1-year history of a subcutaneous nodule in her neck. It had rapidly enlarged within the last three months, and become painful. Her past and family histories were unremarkable. A physical examination revealed a well-mobile, large, soft subcutaneous mass in the right side of her neck.

Magnetic resonance imaging (MRI) showed that a 20 × 30 cm well-circumscribed tumor was located beneath the facia of SCM muscle with high signal intensities on both T1- and T2- weighted images and signal attenuation on fat suppression sequences, which indicated a lipomatous tumor.

Inside the tumor, there were multiple thickened septa with gadolinium enhancement, which was consistent with atypical lipomatous tumor (Figures 1 & 2).

Surgical excision has been recommended, and the results accords with the diagnosis of lipoma with fat necrosis foci, proven histologically.

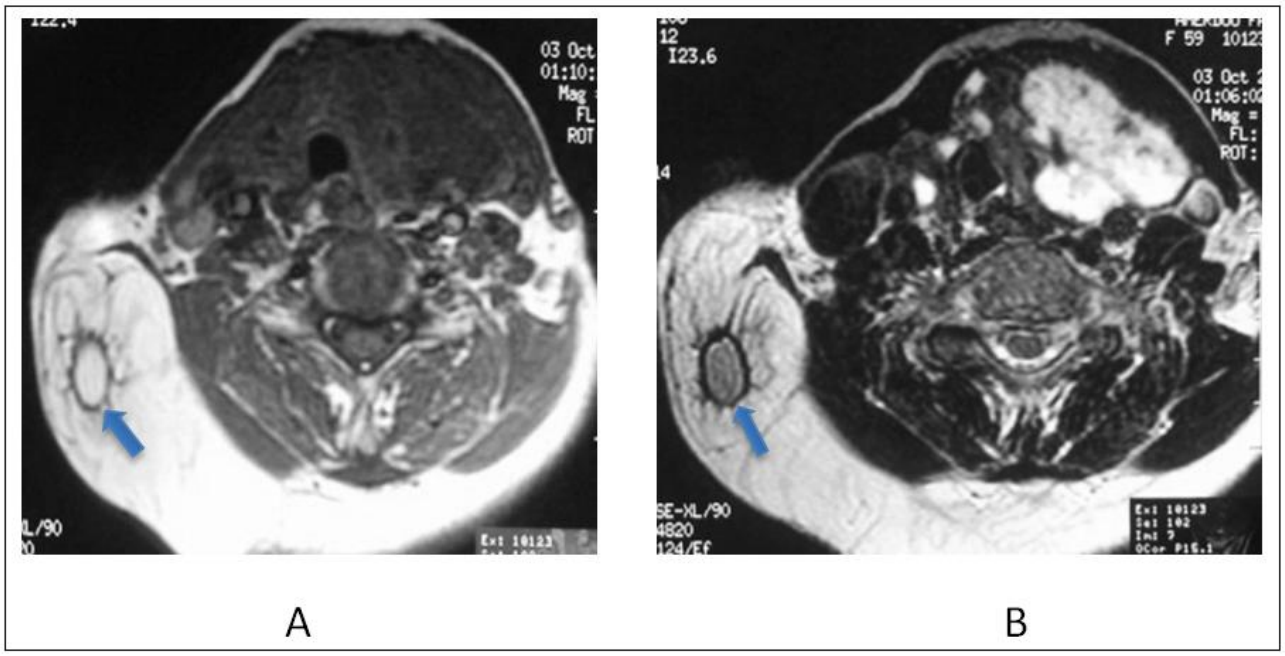

Fig-1: Axial T1-weighted (A), Axial 2-weighted (B) images showed well circumscribed tumor located beneath the right SCM muscle with high signal intensities (arrow). Inside the tumor, there were multiple thickened septa

Fig-2: Coronal Fat-saturated T1-weighted image showed multiple prominent thick septa showed enhancement by gadolinium

DISCUSSION

The occurrence of fat necrosis in lipoma is uncommon, and few cases have been reported [3]. Most of the reported cases of lipoma with fat necrosis were enormous. In view of their large size, the main cause of fat necrosis in lipoma might be ischemia induced by trauma or tumor enlargement.

There are some imaging studies including MRI, CT and ultrasonography (US). MRI has a higher sensibility for soft tissue detail compared to CT. The advantage of US includes its wide availability and its ability to perform a dynamic and color Doppler scan at the time of the investigation, though its limitations arise when the mass is large or deep [4].

Therefore, MRI has been largely used in the diagnosis of such soft tissue tumors. In general, a lipoma takes the form of a homogeneous small mass composed of adipose tissue in MRI. A benign lipoma sometimes has intrinsic thin septa (<2 mm) that usually do not show enhancement by gadolinium [5].

Kransdorf *et al.*, [6] described features favoring a diagnosis of a typical lipomatous tumor rather than lipoma as a lesion larger than 10 cm, presence of thick septa, globular and or nodular non adipose area or mass, and decreased percentage of fat composition. And they showed the statistically significant radiologic predictors of atypical lipomatous tumor as male sex, presence of thick septa, and associated non adipose masses.

Calcification of fat necrosis has been reported, and is best appreciated with radiographs or CT. Fat necrosis can also demonstrate gallium uptake [7] on nuclear medicine studies.

Some authors [8] suggest incisional biopsy of lipomatous tumors which are indistinguishable in the imaging findings, and to take samples of not only adipose lesions, but also the thickened septa in order to reach the correct diagnosis, because of the risk of harvesting only mature adipose tissue in lipomatous regions.

CONCLUSION

A lipoma with fat necrosis may show similar MRI imaging findings to atypical lipomatous tumor. Therefore, it is important to confirm the diagnosis histologically, when we encounter a lipomatous tumor

that imaging findings indicate to be atypical lipomatous tumor.

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