

## Case Report

# A giant nodule with ulcer on the knee: report of a case

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**Abstract:** Leiomyosarcoma is a rare entity whose clinical presentation may appear nonspecific, making diagnosis difficult. We reported a case of cutaneous leiomyosarcoma presented with a giant nodule with ulcer on the knee; the histopathology indicates a spindle cell malignant tumor and Immunohistochemistry results lead us to the diagnosis of leiomyosarcoma. We performed a surgical excision with margins of 3 cm up to the fascia, follow-up of 2 years showed no any clinical recurrence.

**Keywords:** Nodule, ulcer, leiomyosarcoma

### Introduction

Leiomyosarcoma usually occurs in the uterus and gastrointestinal and superficial leiomyosarcoma involving skin is very rare. The most common site is thigh, followed by limbs, abdomen and axillary. The tumor is solid nodules with or without ulcer, usually no symptoms, Histopathology shows as a spindle cell component with atypical features. Other spindle cell malignancies should be excluded. Wide excision and long-term follow-up are recommended. Here we reported a case of superficial leiomyosarcoma presented with a giant nodule on the knee.

### Case report

A 66-year-old man presented with a 10-year history of a slowly growing nodule with ulcer on the extensor of left knee, accompanied with mild itching and pain. The neoplasm was excised with unclear diagnosis and excision margins at the local hospital 4 years ago, but the lesion recurred and grew into a nodule after a couple of months. The nodule progressively expanded in size and became a giant mass. The patient didn't pay more attention on the mass. Three weeks ago, Chinese herbal medicine was applied to the lesion, and then ulcer formed in the center of the nodule.

No reported diseases in his medical history.

On physical examination, the patient was well nourished and in no acute stress. No lymphadenopathy and hepatosplenomegaly were found. The remaining systemic examination was unremarkable. Skin inspection showed a 5 cm×6 cm, well-defined and firm nodule with central ulceration and bleeding on the left knee extensor, the ulcer was covered with purulent secretion (**Figure 1**). Routine laboratory examinations on admission were within normal range. Plain radiographs of the affected area showed no bone involvement. No distant metastases were found by clinical examination and imaging examination.

A clinical diagnosis of squamous cell carcinoma, atypical fibroxanthoma, pleomorphic undifferentiated sarcoma, dermatofibrosarcoma protuberans, and angiosarcoma was suspected.

Histopathologic examination showed a poorly delineated neoplasm predominately located in the dermis, extending into the underlying subcutis. The neoplasm was composed of fascicles of spindles cells with elongated blunt-ended nuclei, scattered mitoses were noticed. (**Figure 2A, 2B**) (H&E stain; ×200).

Immunohistochemical staining was positive for SMA, vimentin and HHF35, (**Figure 3A-C**) and

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**Figure 1.** A tumor with ulceration on the extensor of the left knee in a 66-year-old man.

negative for CK, S100, HMB45 and CD34. The diagnosis of cutaneous leiomyosarcoma was established. The lesion was received extensive resection using an additional 1-cm margin with negative microscopic margins. The patient didn't receive chemotherapy after the resection. The result of follow-up of 2 years showed no any clinical recurrence.

### Discussion

Leiomyosarcoma is a rare entity whose clinical presentation may appear nonspecific, making diagnosis difficult. Preoperative misdiagnosis is very common; the correct diagnosis must be established by the histopathologic findings. Our case here is an old man presenting with an ulcerative nodule for 10 years on the knee extensor, the histopathology showed a spindle cell neoplasm with atypical feature. Except leiomyosarcoma, other spindle cell tumors include spindle squamous cell carcinoma, atypical fibroxanthoma, pleomorphic undifferentiated sarcoma, dermatofibrosarcoma protuberans, angiosarcoma, malignant melanoma could be considered. Immunohistochemistry is necessary for the microscopic differential diagnosis. Usually, almost all the leiomyosarcoma lesions have positive expressions of vimentin and smooth muscle actin, and approximately 60% of cases express desmin [1, 2]. CD34, S100 and CK5/6 are helpful to exclude other spindle cell tumors [3].

Immunohistochemistry results of the patient showed that staining of SMA, vimentin and Muscle-specific actin HHF35 is positive, and

negative for CK, S100, HMB45, CD34. The results help us exclude malignant melanoma, dermatofibrosarcoma protuberans and vessel tumor, squamous cell carcinoma, and atypical fibrous xanthoma is an exclusion diagnosis. So, the diagnosis of leiomyosarcoma is established.

There are two types of LMS, primary dermal LMS, originate from the arrector pili muscles and subcutaneous LMS, originate from vascular smooth muscle [4, 5]. The most common site is thigh, abdomen and limbs, followed by axillary, solid nodules are most common lesions [4], as for the patient, the tumor tissue has been extended to the subcutaneous tissue owing to long course of disease, but the tissue localizes predominantly in the dermis. The leiomyosarcoma could be considered that it is originated from the dermal, belonging to cutaneous leiomyosarcoma. The ulcer of the central tumor may be related with external application of Chinese herbal medicine.

The clinical behaviour of different types of leiomyosarcoma seems to be related to the site of the tumor [6]. The more superficial tumors may mean the better prognosis [7]. Compared to dermal LMS, the subcutaneous LMS has a higher risk of local recurrences and distant metastases, statistically, compared with 30 to 60 percent for the subcutaneous form, the metastatic potential is 5 to 10 percent for the cutaneous form [1, 2].

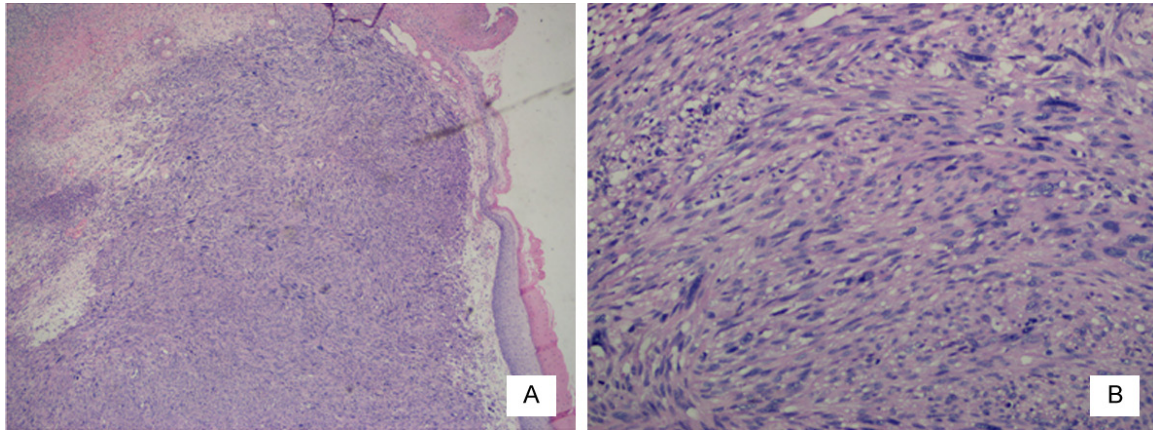
The preferred treatment is wide local excision. However, the optimal width and impact of the margin of resection are not as well defined. In the case of our patient, we performed a surgical excision with margins of 3 cm up to the fascia, follow-up of 2 years showed no any clinical recurrence.

### Disclosure of conflict of interest

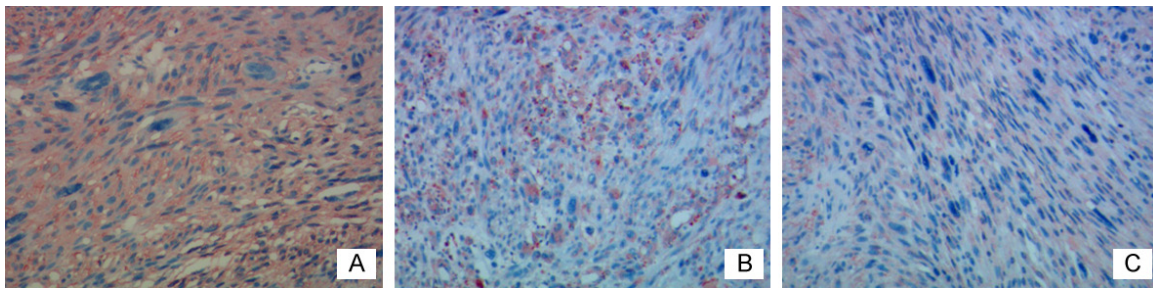
None.

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**Figure 2.** Epidermal atrophy, a dermal cellular tumor is composed of plump, spindle-shaped cells arranging in fascicles with elongated blunt-ended nuclei (A: H&E stain; ×100 magnification), pleomorphic nuclei, hyperchromatic nuclei and scattered mitoses (B: H&E stain; ×400 magnification).



**Figure 3.** Immunohistochemical stain showed diffuse positive in tumor cells for smooth muscle actin (A), vimentin (B) and Muscle-specific actin HHF35 (C). (A: ×400; B, C: ×200 magnification).

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