

## Ultrasonography-guided tumor excision for small soft tissue tumor

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### Background:

Small soft tissue tumors are sometimes difficult to recognize the exact location at the time of skin incision. It is also hard to confirm whether the tumor is exactly involved in the resected specimen during the operation. In recent years, the quality of ultrasonography (US) imaging has improved considerably. US is noninvasive and easy to get the repeatable real time imaging and already widely used to guiding the intervention such as needle biopsy. The purpose of this study is to evaluate the usefulness of US-guided soft tissue excision.

### Questions/purposes

We determined the local recurrences and complication after US-guided surgery.

### Material & methods:

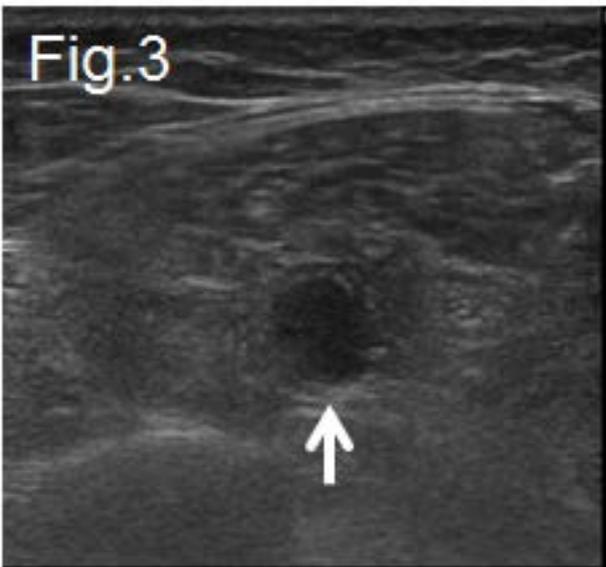
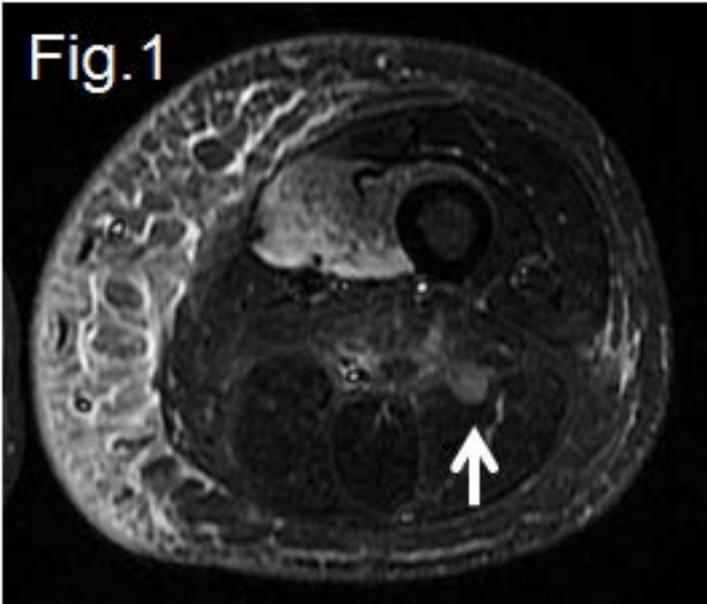
We retrospectively analyzed nine patients with benign (2 pts) and malignant soft tissue tumors (7 pts) treated by US-guided surgery. Mean tumor volume was  $8.7\text{cm}^3$  (range,  $0.13\text{--}33.8\text{cm}^3$ ). Mean age was 46 years (range, 17-70 years). Mean follow-up time was 20 months (range, 10-38 months). Before the skin incision, we detected the exact tumor location by US. If the tumor was close to the fascia, the possibility of the infiltration to the fascia or deeper tissue was evaluated whether the adhesion of tumor to the fascia was apparent or not based on ultrasound imaging. We also checked the margin of the tumor before the incision of the surround soft tissue (muscle or fat tissue) of tumor by US.

### Results :

All nine cases were evaluated as the histologically negative surgical margin. No adverse effect was observed concerned to US. One local recurrence (recurrent UPS) was detected on 9 months after the surgery, however the recurrence developed in the distant from surgical field.

### Conclusion:

US-guided surgery for soft tissue tumor is simple, noninvasive, and useful technic. Further long-term follow-up in a larger study is necessary.



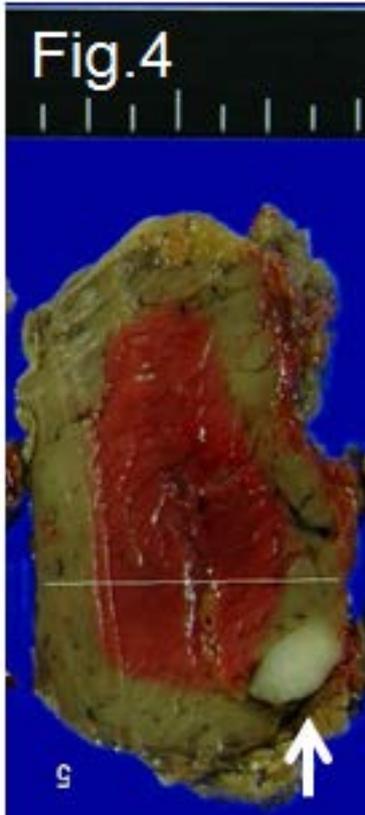


Fig.1: MRI showed the small recurrent leiomyosarcoma (white arrow) in biceps femoris. Fig.2: After skin incision, tumor was detected using US. Fig.3: US imaging clearly detected the tumor (white arrow). Fig.4: Tumor (white arrow) was involved resected specimen.