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An Unexpected Myxofibrosarcoma Seen on Ultrasound of the Knee

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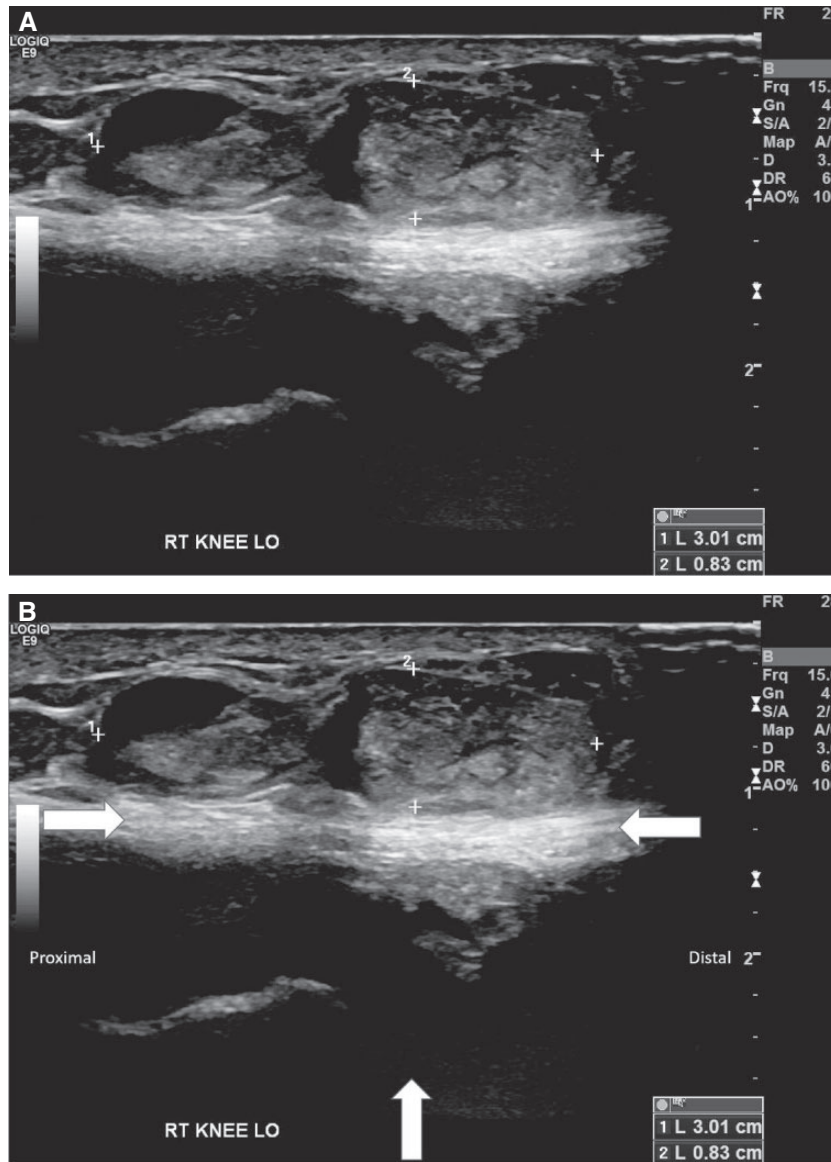


Figure 1. A sagittal view of a heterogeneous soft tissue mass with unlabeled (A) and labeled panels (B). The larger inferior lobule measures 14 × 8 × 19 mm in size, with the smaller more superior nodules having maximum dimensions of 12 × 4 mm. The hyperechogenic longitudinal structure deep to the lesion on the sagittal images is the iliotibial band (between the solid horizontal white arrows in panel B). The joint line is indicated by the solid vertical white arrow in the second panel.

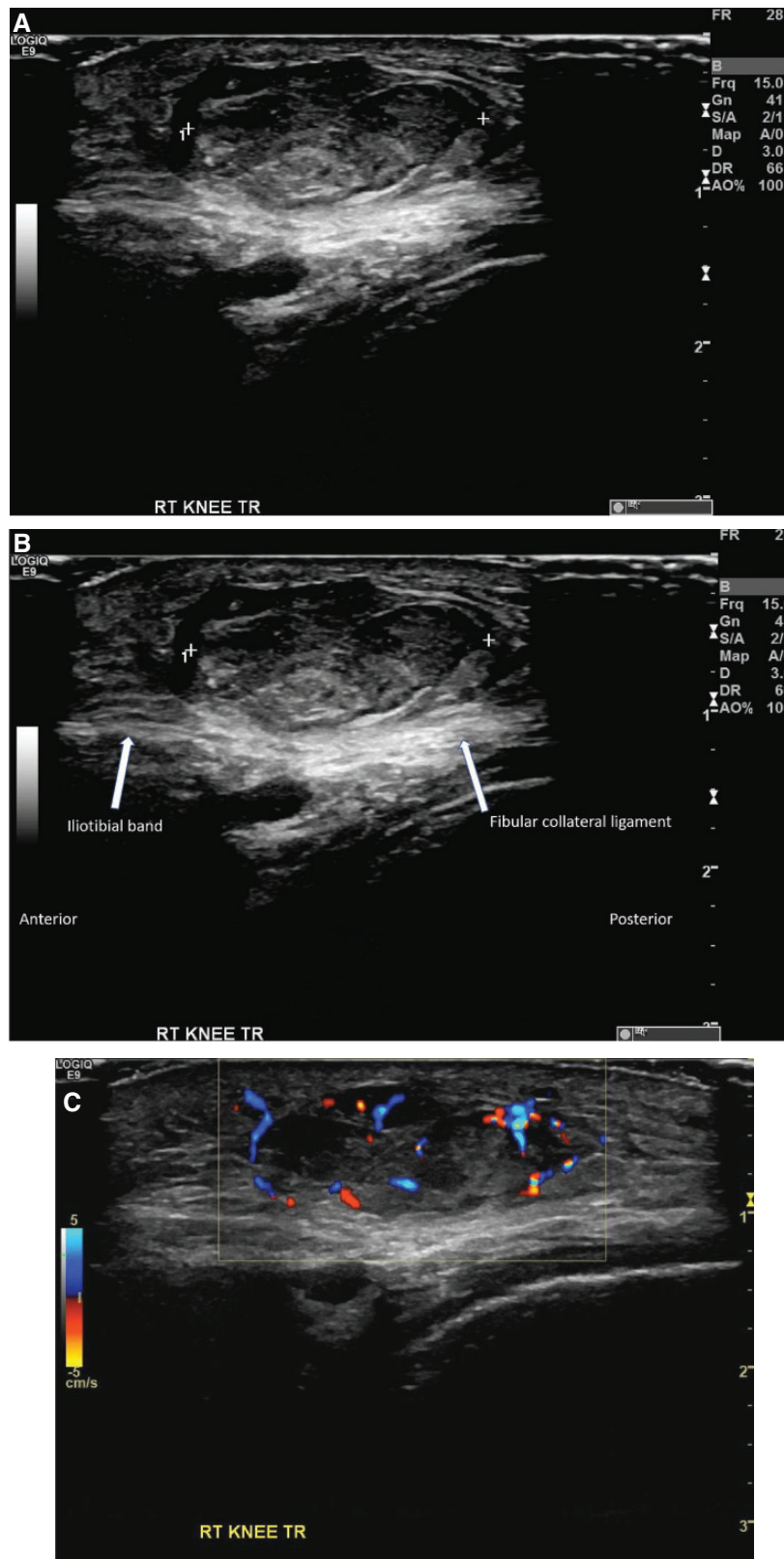


Figure 2. A transverse view of a heterogeneous mass with views including unlabeled (A) and labeled (B) and doppler (C). Important findings are both low and intermediate echogenic regions within the lesion. The lesion is superficial to the iliotibial band and fibular collateral ligament (B). Transverse image with doppler shows an important feature: prominent vascularity (C).

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Physicians performing musculoskeletal ultrasound require familiarity with critical findings of rare conditions. In this case, a 72-year-old man felt a bothersome but not painful lump on his knee. The lump had been growing over 1 year. A General Electric Logiq E9 ultrasound machine with variable frequency 6–15 MHz probe linear probe set on 15 MHz, revealed a heterogeneous mass with vascularity. After magnetic resonance imaging (MRI) for staging and operative planning purposes, a high-grade myxofibrosarcoma was confirmed by biopsy.

Ultrasound imaging shows, at the level of the joint line (Figure 1), just superficial to the iliotibial band and fibular collateral ligament (Figure 2), a trilobed heterogeneous soft tissue mass. Only two of the three lobes can be seen on single images due to the three-dimensional shape of the lesion. Seen with doppler there is prominent peripheral blood supply but also a small amount of internal blood flow (Figure 2, panel 3). The appearance was strongly suggestive of tumor, due to the heterogeneity and internal blood flow. An organizing hematoma would not normally have this much internal blood flow. The imaging features are not compatible with a cyst, which would be anechoic with posterior acoustic enhancement. The size was intermediate, although larger tumors have a higher incidence of malignancy.

Physicians performing ultrasound should consider the potential for malignancy. Myxofibrosarcoma is a malignant soft tissue tumor, arising in the subcutaneous

tissue, fascia, and muscle [1], typically affecting elderly people. Older adults are predominantly affected with median age between 50 and 66 depending on the study [2–4]. Ultrasound findings are nonhomogeneous hypoechogenic polynodular lesion with indistinct borders and nonhomogenous angiogenesis [5]. After recognition, prompt referral for MRI and definitive care is essential. MRI should always be performed prior to biopsy since the appearance post biopsy can cause upstaging of the lesion.

AQ3 AQ4

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