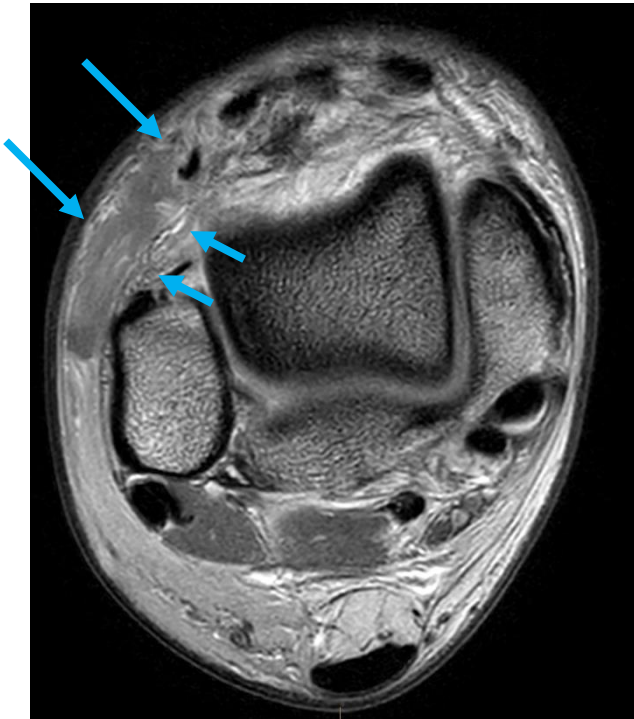


17yo footballer – lateral ankle inversion injury, palpable lump laterally - ? haematoma

MRI Findings:

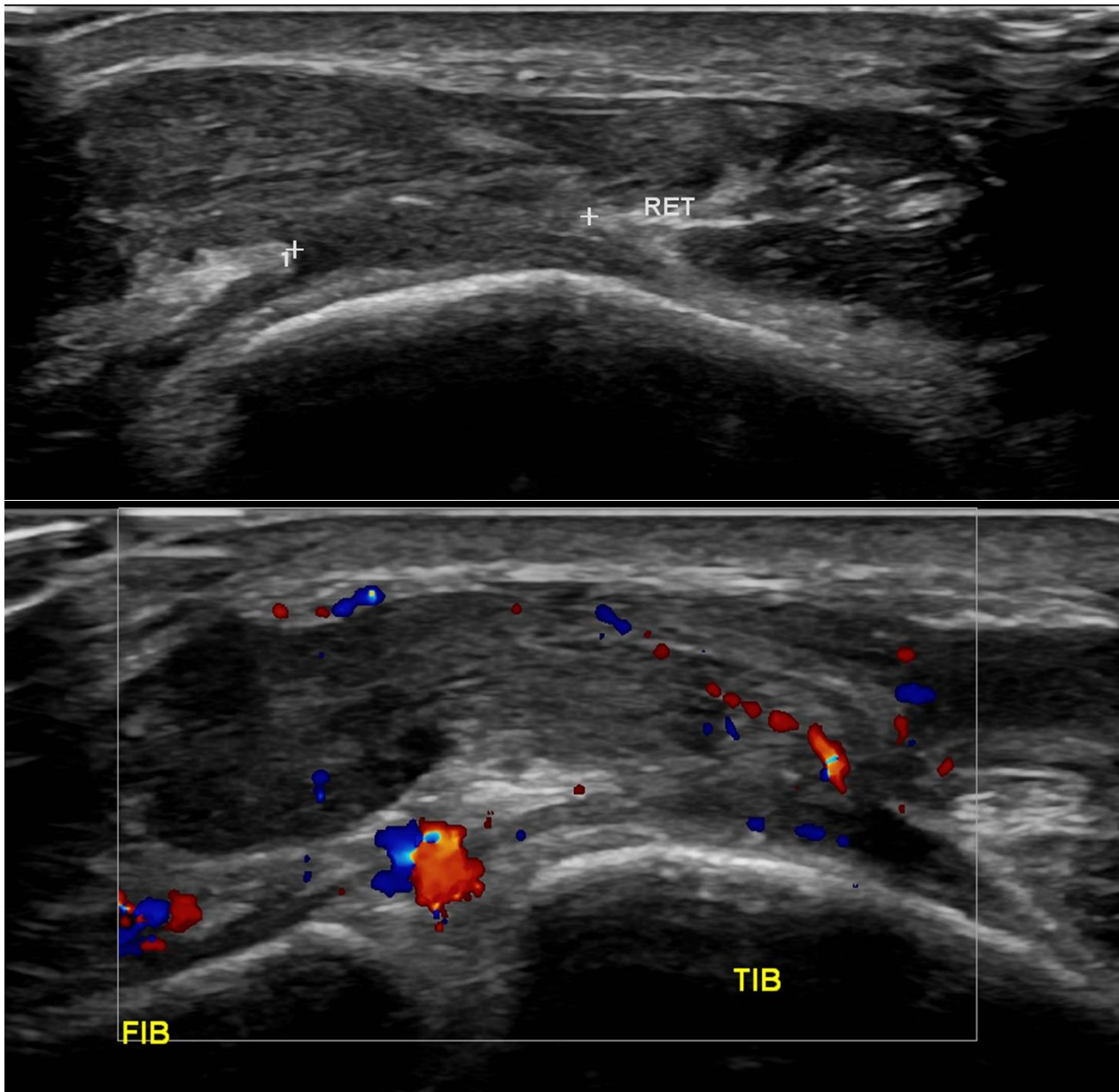
- Tearing of anterolateral ankle capsule and inferior/superior extensor retinaculum
- Lobulated, 'bunched up' soft tissue structure (of muscle architecture) in the anterolateral subcutaneous tissues adjacent to the retinacular defects
- Extensive subcutaneous soft tissue oedema and bleeding/swelling laterally
- High grade lateral ankle ligamentous injuries (not shown)



Axial PD (top left) shows the 'bunched' muscular structure in the anterolateral ankle, adjacent to the frankly disrupted extensor retinacular complex.

Axial T2 (bottom left) shows the significant oedema/fluid and bleeding associated with this injury through the lateral ankle. While the anteroinferior tibiofibular ligament is intact on this slice, more inferior sequences show ATFL and CFL injury (not shown)

Coronal PD (top right) shows the soft tissue lump in another plane. Note the muscle architecture appearances.



Ultrasound correlation: The superior image shows the retinacular defect (RET), and the structure pushing through the defect into the subcutaneous soft tissues. The structure is of muscle architecture and was noncompressible. The more inferior image shows how the structure has internal vascularity, further confirming that this was a muscular structure which has herniated through. The sonographer has kindly labelled the tibia (TIB) and fibula (FIB) for ease of reference.

Discussion

- Peroneus tertius is present in 85-90% of the population
 - Present in 85% of the population, small (borderline vestigial) muscle of the anterolateral foot
 - Origin – inferior 1/3 of the fibular and interosseous membrane
 - Course – under the superior and inferior extensor retinaculum
 - Insertion – 5th metatarsal base
 - Action – dorsiflexion, foot eversion
- In our case, the muscle has ‘bowstringed’ out through the retinacular defect to reside in the anterolateral ankle as a palpable lump. Using both MRI and US, we can confirm this is muscle (rather than the obvious differential of haematoma)

Further Reading:

Sookur PA et al, *Accessory muscles: anatomy, symptoms, and radiologic evaluation*, Radiographics, 2008; 28:481-499

Wang X et al, *Normal variants and disease of the peroneal tendons and superior peroneal retinaculum: MR imaging features*, Radiographics, 2005; 25:587-602