

Clinical Case Study: Femur Stress Fracture - Marathon

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HISTORY

During a race, a 35-year-old marathon runner complained of experiencing dull, achy pain in the right groin. After the race, he occasionally experienced radiating pain in the right thigh. The athlete was examined by a general practitioner (GP). During the clinical evaluation, the athlete had no signs of tenderness or swelling. The GP suggested rest and prescribed anti-inflammatory medication.

PHYSICAL EXAMINATION

Ten days later, during training, the athlete felt the same discomfort after a challenging training session. He, then, decided to see an orthopedic physician. At the clinical examination, there was no localized pain. Focal pain was present during weight-bearing activities only. Initial x-rays showed no significant abnormality or fracture. However, due to the complaints of the athlete, the doctor suggested additional x-rays (Figure A) and an MRI (Figures B & C).

DIFFERENTIAL DIAGNOSIS

1. Lumbar radiculopathy
2. Rectus femoris strain
3. Abductor strain
4. Trochanteric bursitis

Our clinical case gives an indication of the decision-making process so that other physicians can apply lateral thinking to their own cases

TEST AND RESULTS

- X-ray showed a fracture of the middle shaft of the femur
- MRI showed a medial periosteal reaction in the femoral shaft (high fluid signal) - Pain, especially during internal rotation
- Pain on the affected side with a single-leg stance
- Pain during activity, reproducible on passive range of motion

FINAL/WORKING DIAGNOSIS

Stress fracture of the middle shaft of the right femur

TREATMENT AND OUTCOMES

1. Tolerate weight bearing if no displacement occurs (four months max.)
2. Treatment by a metabolic physician (Vitamin D deficiency or other)
3. Continuing follow-up with repeated imaging: Verify resolution and minimize the progression to displacement
4. Surgery if conservative management fails (see #1-3)
5. Intramedullary rodding (surgical procedure)

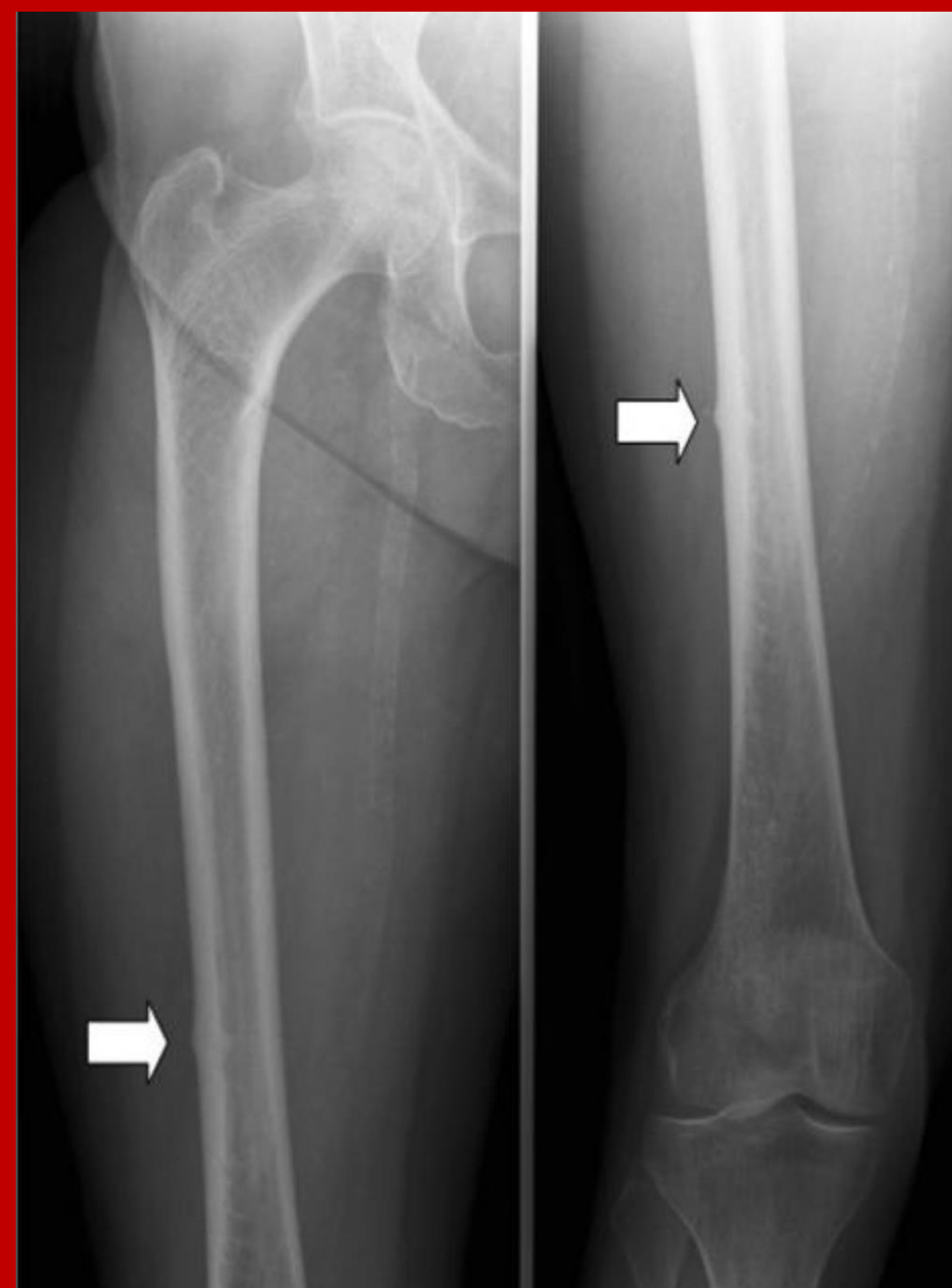


Figure A. Frontal Plane Femur X-Ray

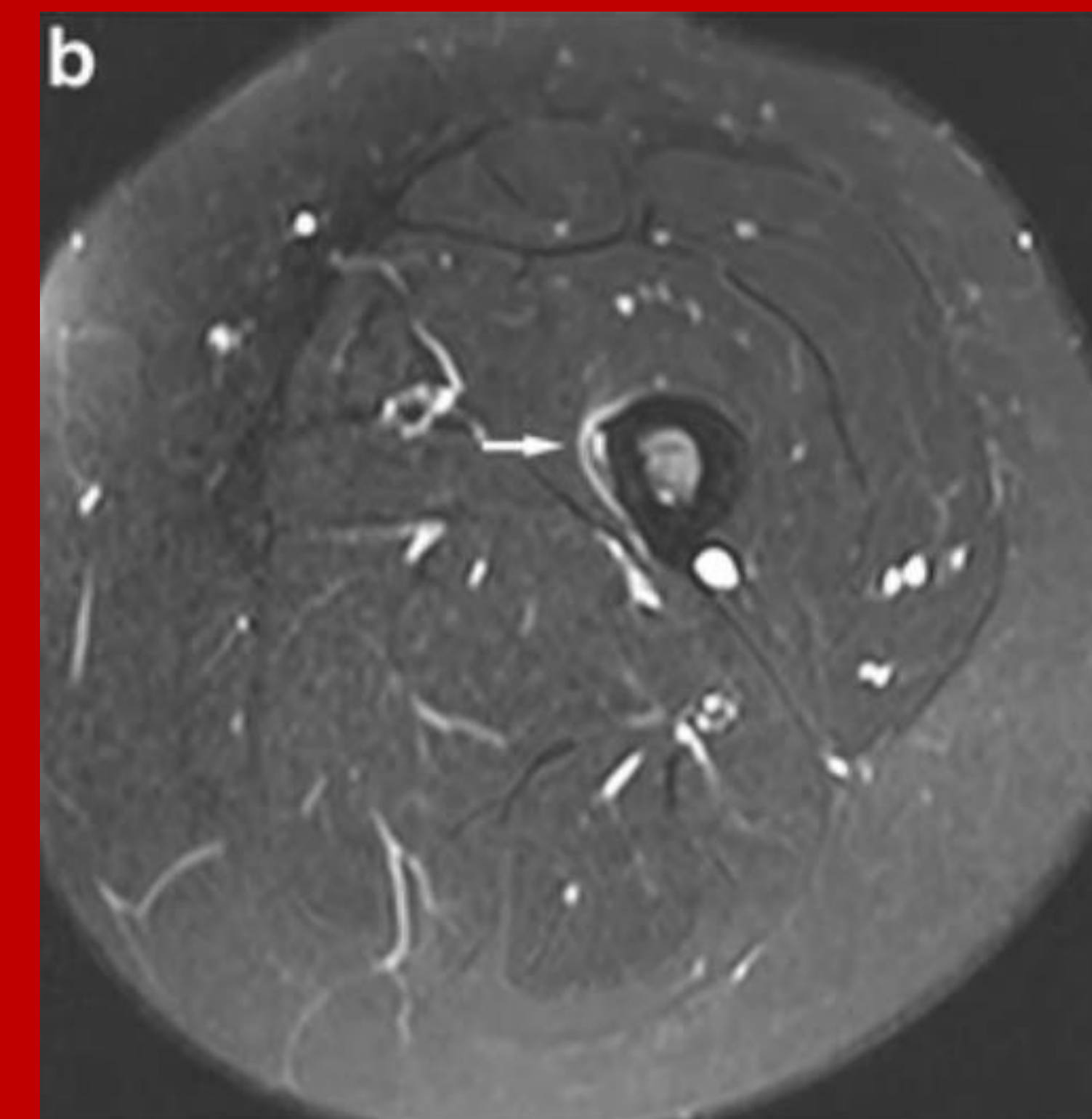


Figure B. Transverse Plane Femur MRI

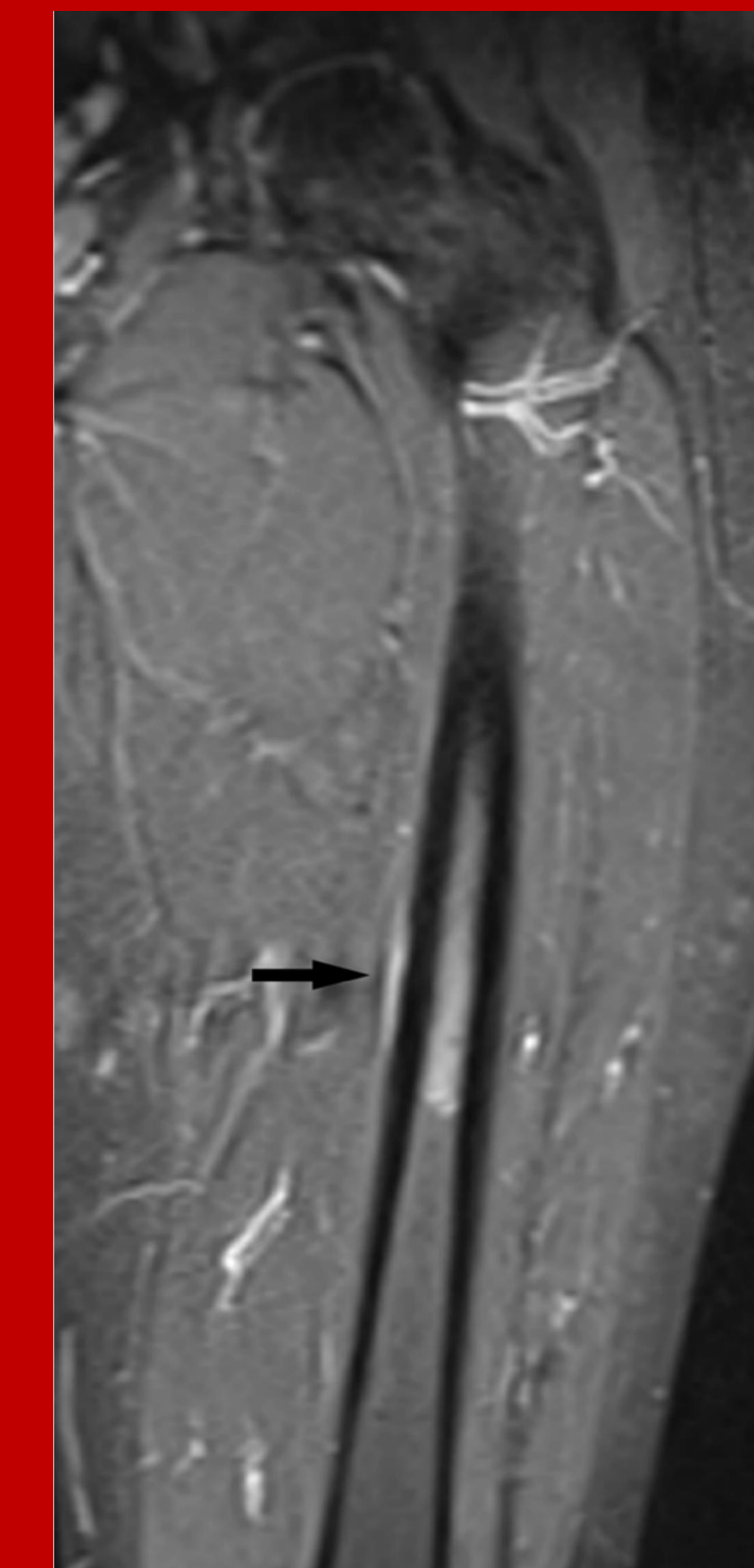


Figure C. Frontal Plane Femur MRI

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