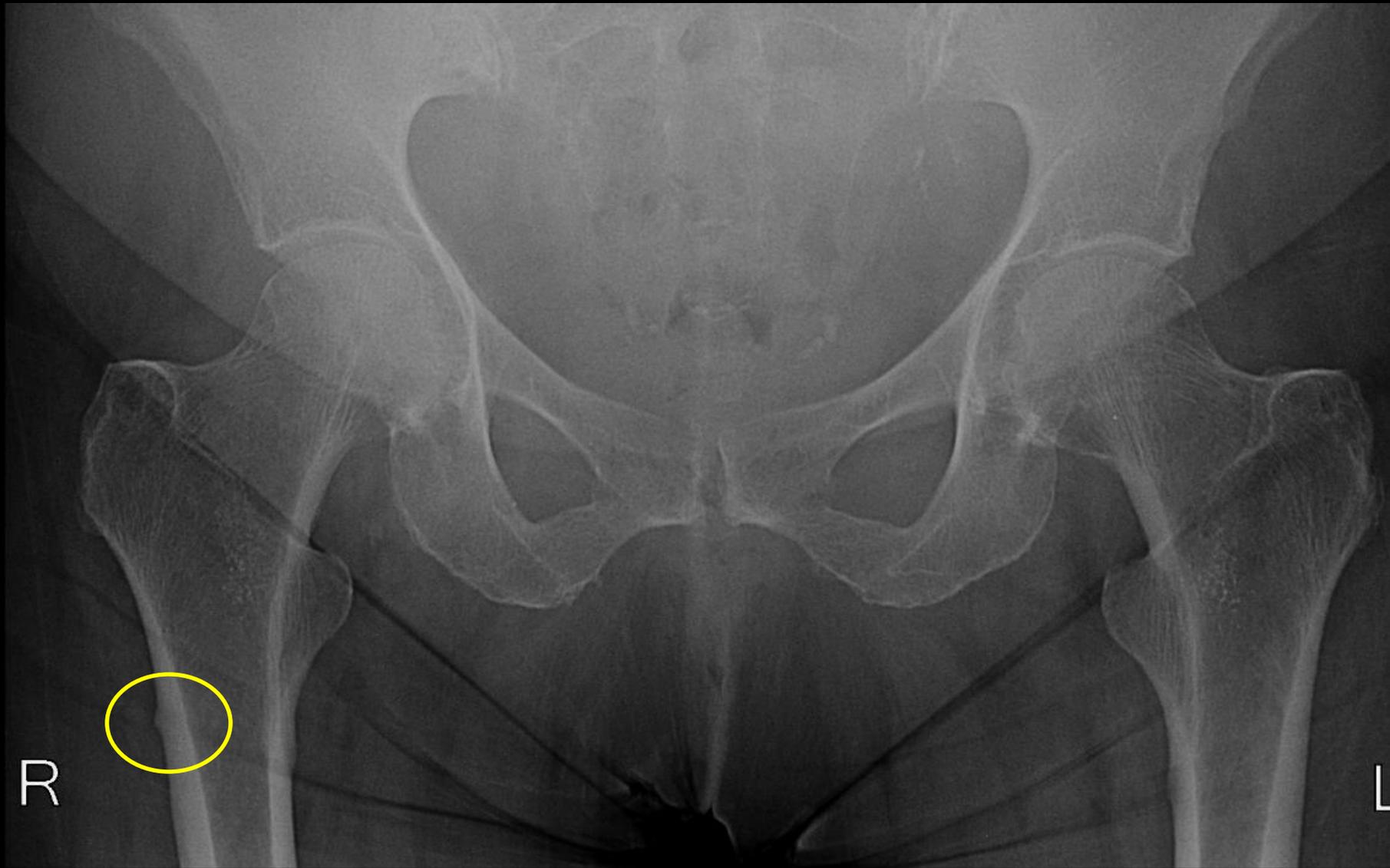
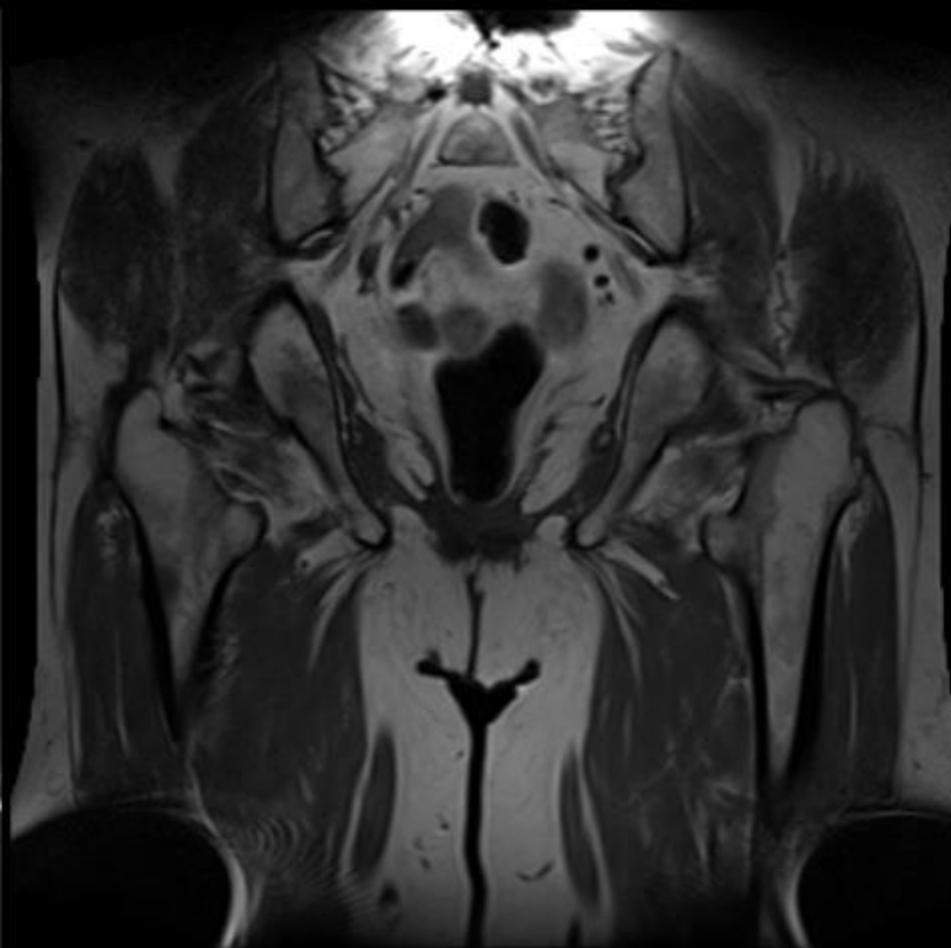
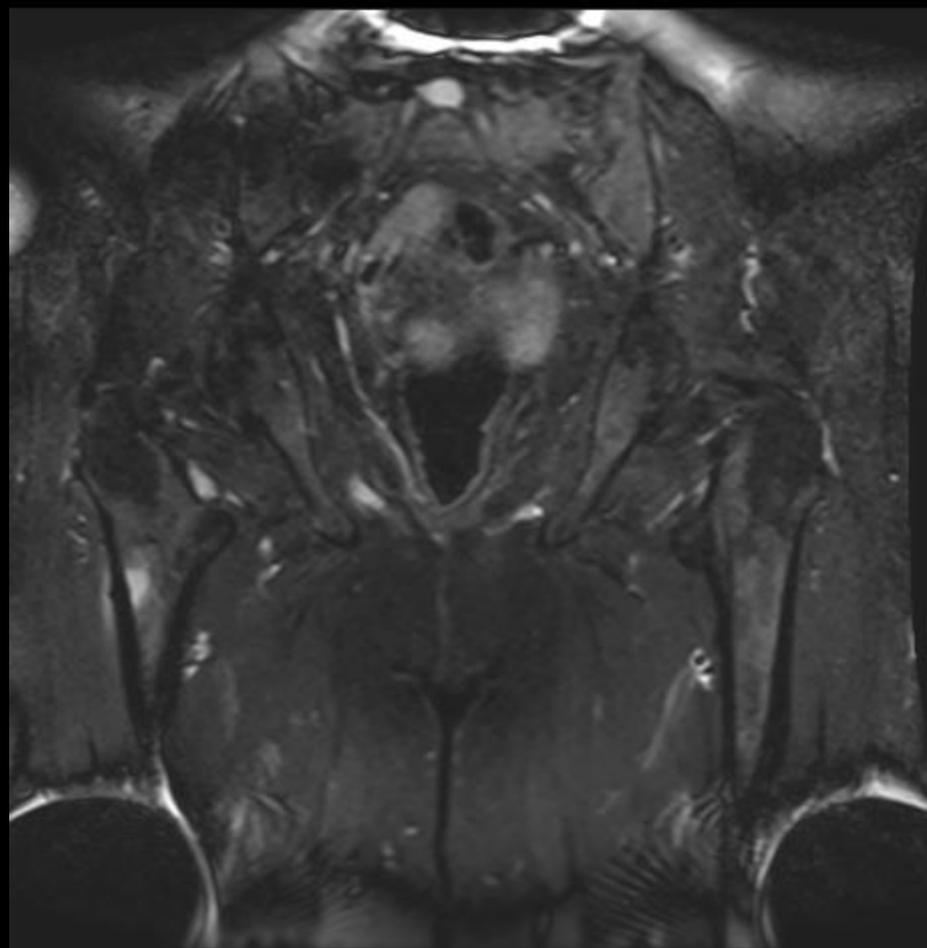
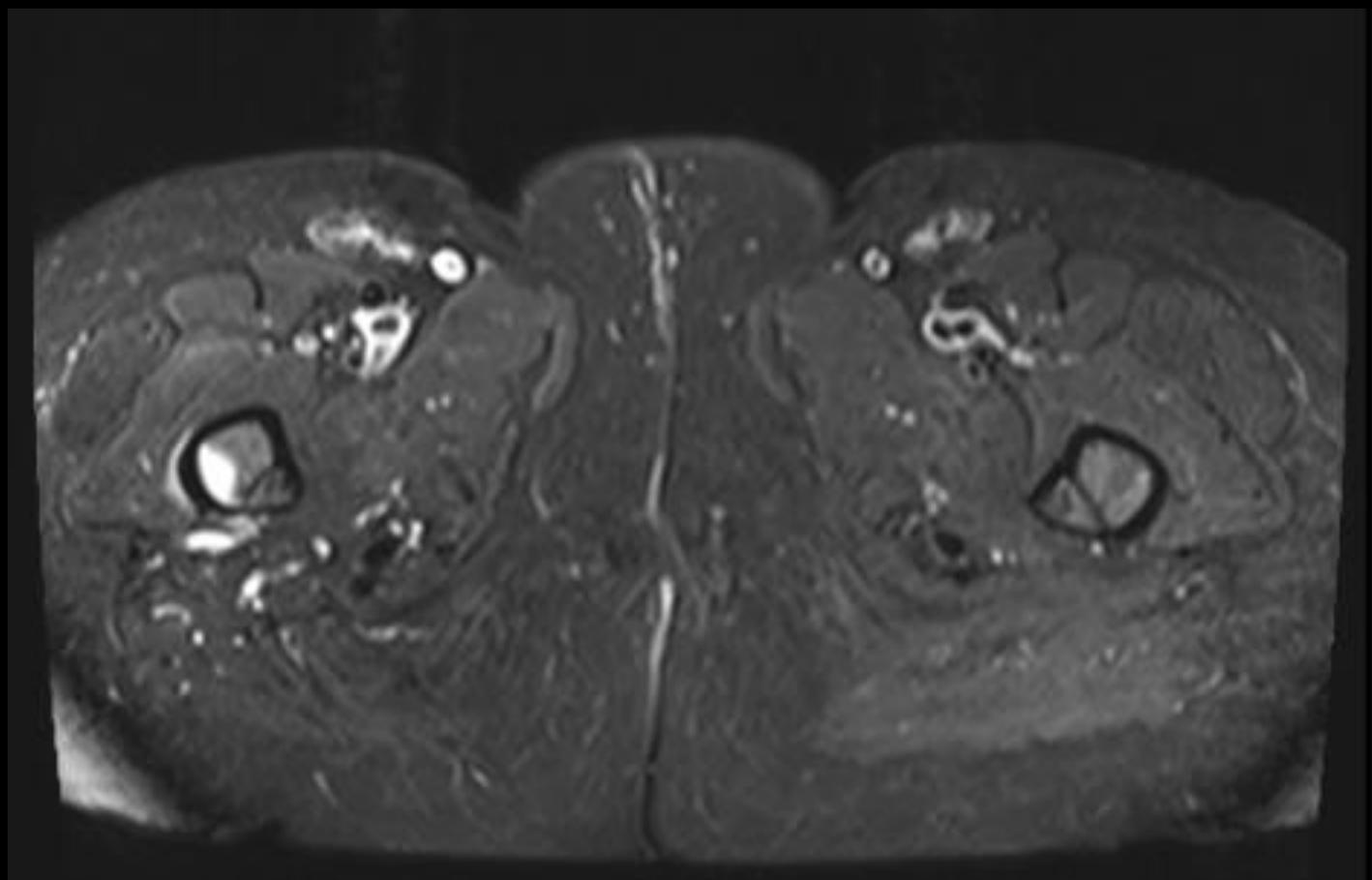


Woman with history of osteoporosis.
Hip pain for the past couple weeks.

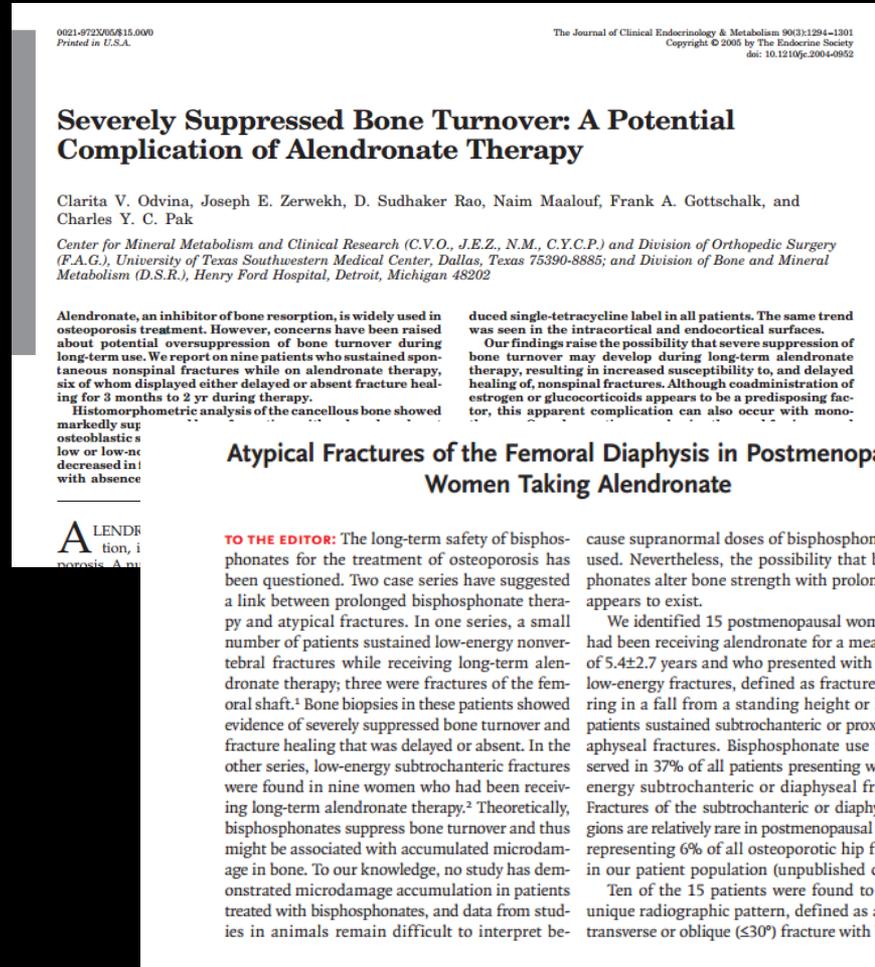






Atypical subtrochanteric insufficiency fracture

- Associated with long-term (> 5 yrs) bisphosphonate use
- Atypical
 - Subtrochanteric
 - Low energy mechanism of injury
 - Bilateral



Atypical subtrochanteric insufficiency fracture: Mechanism

- Bisphosphonates induces osteoclast apoptosis
- Inhibits osteoclast mediated bone resorption
- Accumulation of microdamage and increased risk of insufficiency fractures

Atypical subtrochanteric insufficiency fracture: Imaging

- Transverse fracture
- Cortical hypertrophy of lateral cortex
- Medial beak
- Varus alignment at fracture site

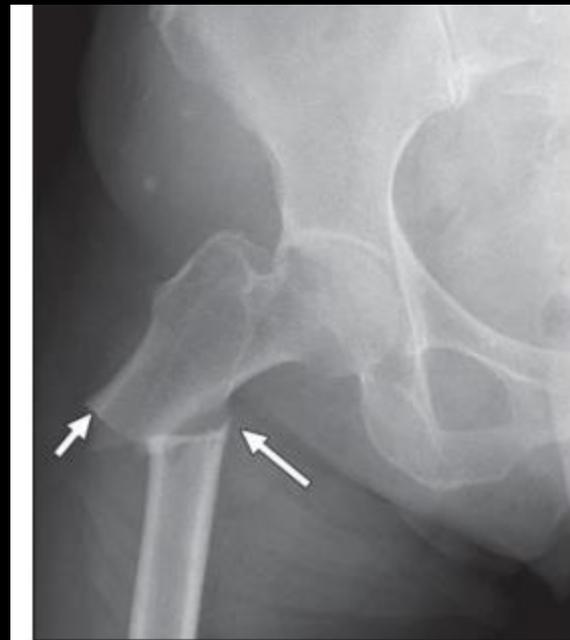


Fig. 1—74-year-old woman who sustained fracture after fall from chair. Image shows most commonly seen complete fracture pattern. Anteroposterior radiograph shows transverse fracture orientation, skirt-like focal lateral cortical thickening (*short arrow*), medial beak (*long arrow*), superior displacement of distal fracture fragment, and varus angulation at fracture site.



Atypical subtrochanteric insufficiency fracture: Management

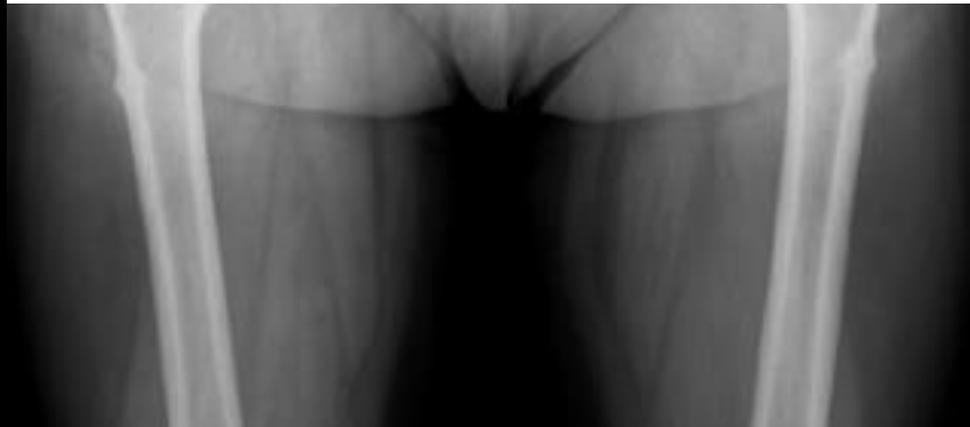
- Prodromal thigh pain
- Screen the contralateral femur
- Seldom heal with conservative management
- High rate of progression to fracture completion
- Prophylactic rod

Clin Orthop Relat Res (2011) 469:2028–2034
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CLINICAL RESEARCH

Nonoperative versus Prophylactic Treatment of Bisphosphonate-associated Femoral Stress Fractures

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Clin Orthop Relat Res (2010) 468:3393–3398
DOI 10.1007/s11999-010-1583-2

CLINICAL RESEARCH

Is Surgery Necessary for Femoral Insufficiency Fractures after Long-term Bisphosphonate Therapy?

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