Transient bone marrow edema syndrome

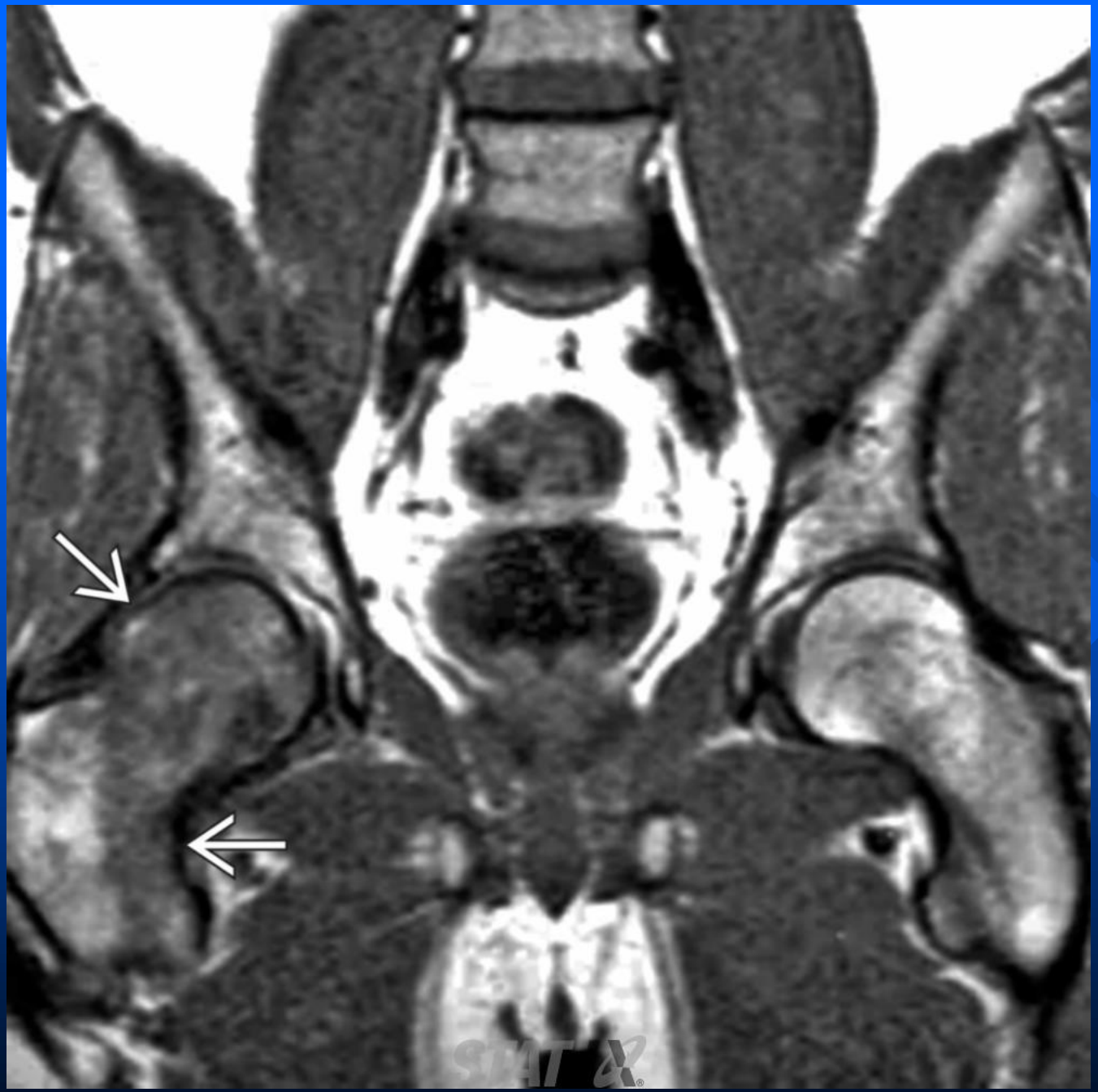
- Painful bone marrow edema centered around joints; of unknown etiology and self-limited
- Transient regional osteoporosis (TRO):
  - Likely subset of transient bone marrow edema syndrome that shows bone marrow edema and osteoporosis
- Regional migratory osteoporosis: TRO that shows migratory pattern
- Transient osteoporosis of hip: TRO, specifically of hip (most common location)

MRI

- Femoral head marrow edema
  - ↓ T1W, ↑ T2W signal; enhancement with contrast, peak enhancement may be delayed
  - Does not involve entire subchondral region
    - » Portions of femoral head/neck/greater trochanter may exhibit completely normal signal
  - Variable extension into femoral neck
  - ± involvement of acetabulum
- No changes indicating irreversibility
  - Subchondral low signal; articular surface irregularity
- May have small joint effusion
- Adjacent soft tissue changes usually minimal or absent

Clinical issues

- **Presentation**
  - **Most common signs/symptoms**
    - » Severe pain develops over days
    - » Resolves over weeks to months
- **Demographics**
  - **Age**
    - » 2nd, 3rd decades; may occur in children
  - **Gender**
    - » Initially described in pregnant females, yet more common in middle-aged men
- **Natural History & Prognosis**
  - Self-limited, usually reversing after several months; imaging returns to normal
  - May be migratory, involving another joint (usually hip or knee) or another location within same joint
  - May be complicated by insufficiency fracture
- **Treatment**
  - Conservative; protected weight-bearing
  - Bisphosphonate therapy suggested by some
  - For debilitating pain, core decompression has been suggested; shown to shorten course of disease



Coronal T1WI MR shows bone marrow edema through right femoral head extending into femoral neck (white solid arrow). Subchondral linear low signal and irregularity of articular surface are absent.

Transient osteoporosis, right hip

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