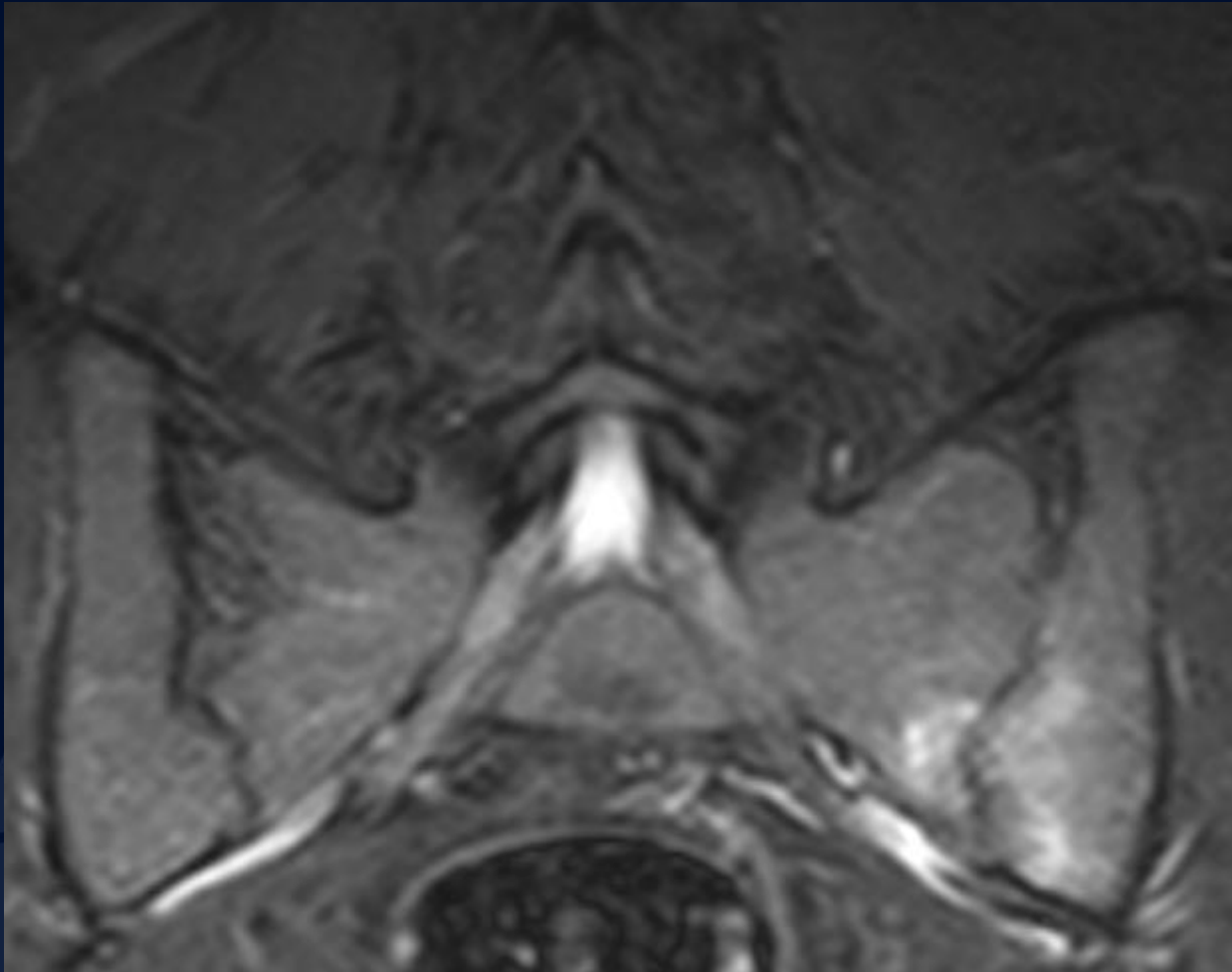
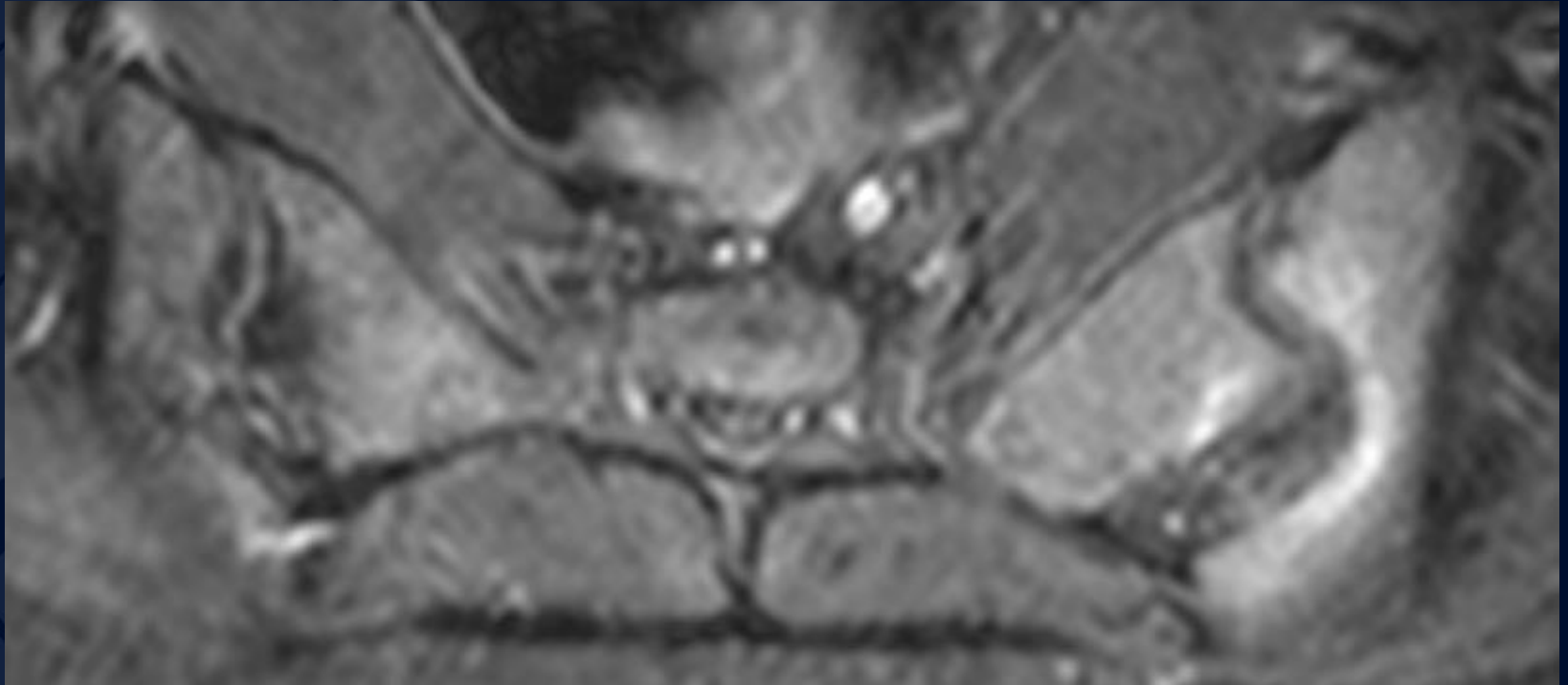


31 year old female with hx of
IVDA presents with left hip pain,
fever.

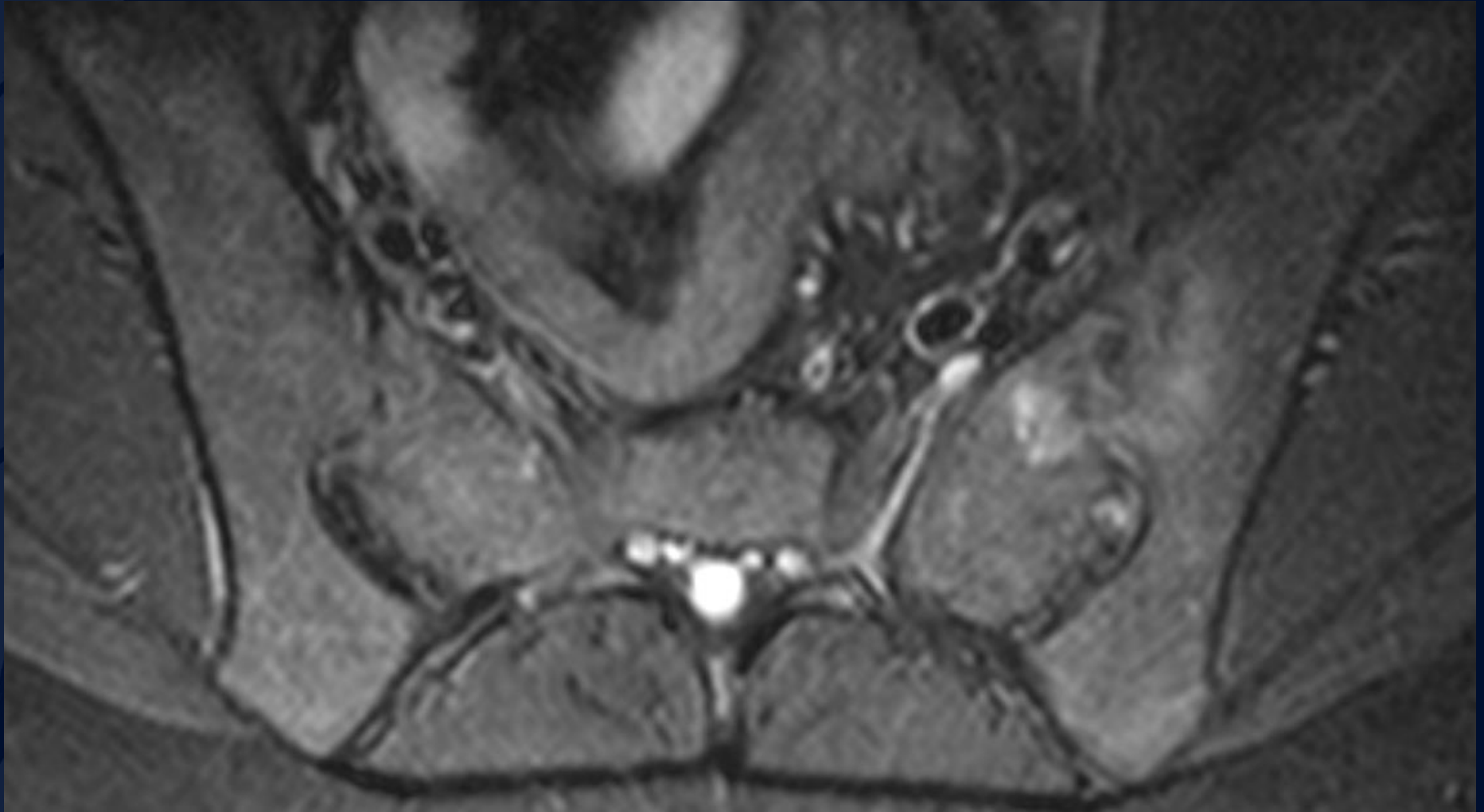
Ryan Joyce, MD



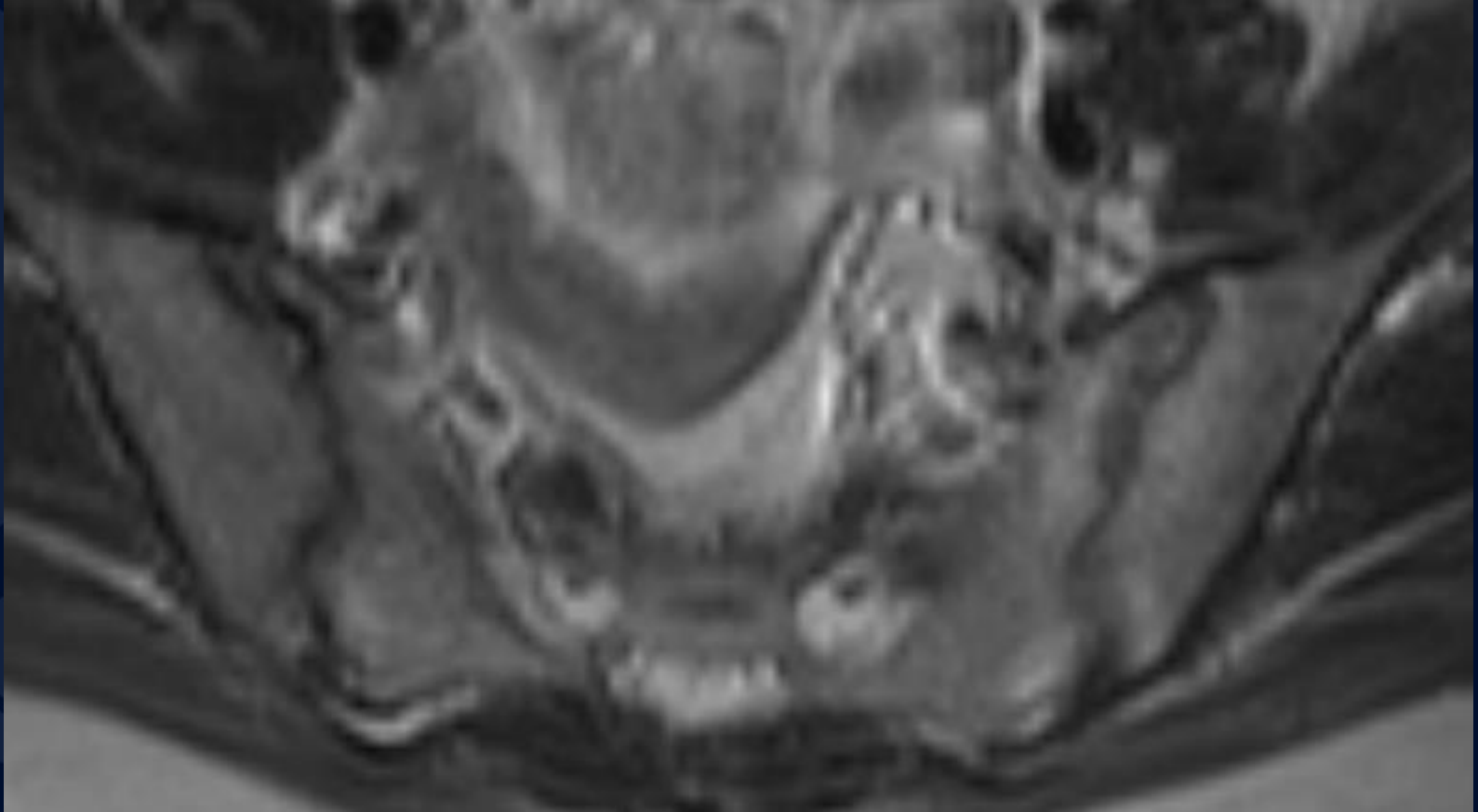
T2 Fat sat



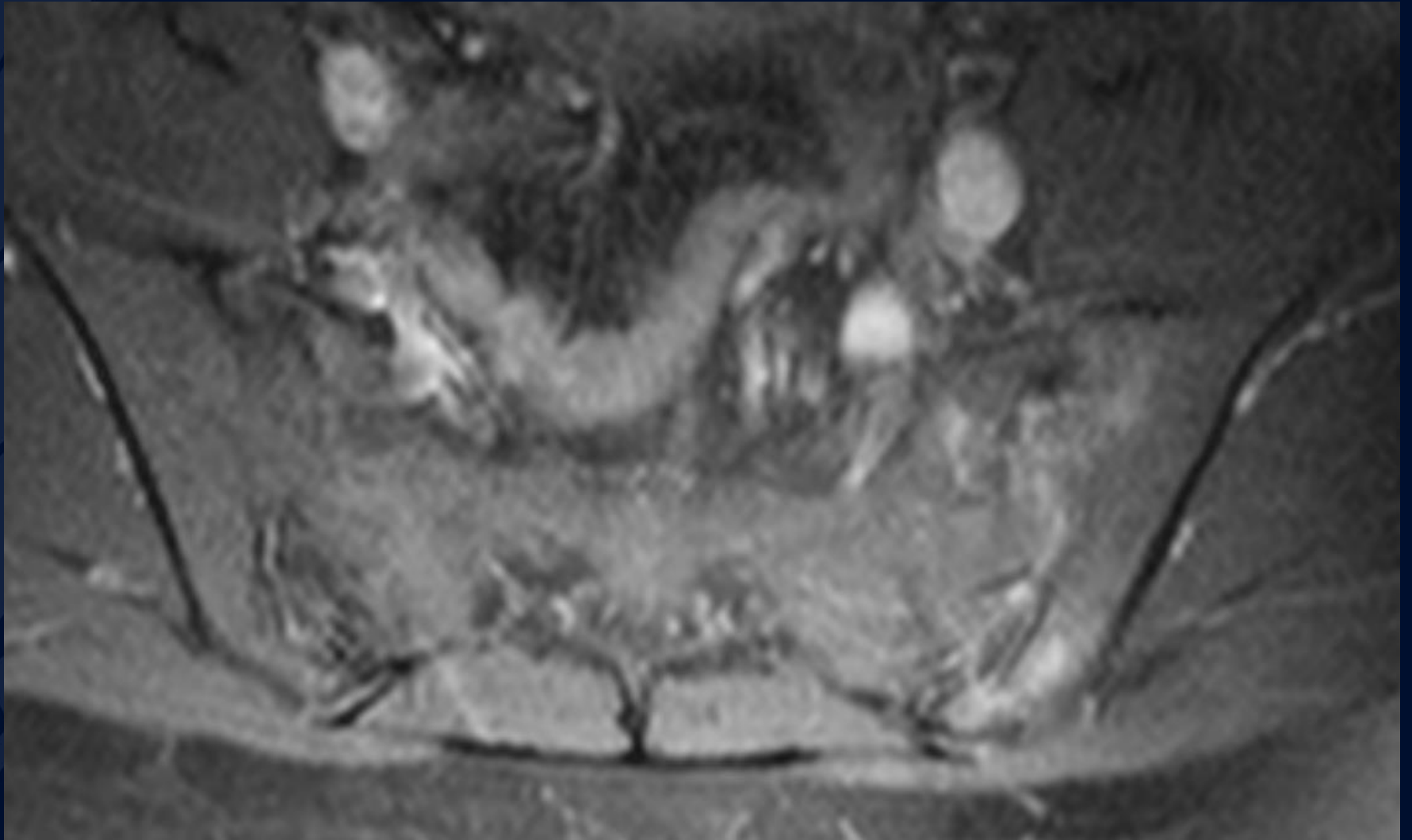
T2 Fat sat



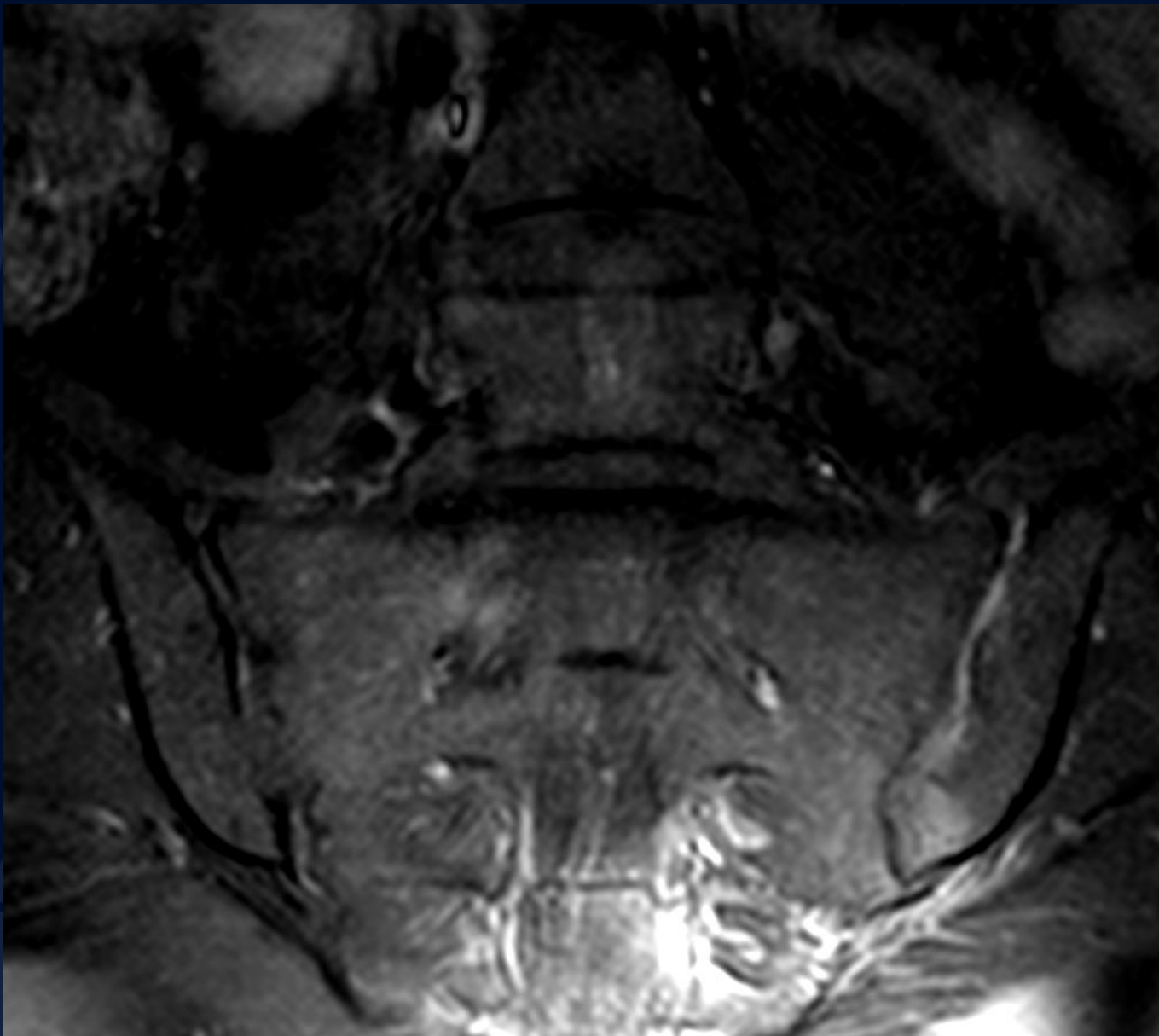
T2 Fat sat



T2



T1 Fat sat post-contrast

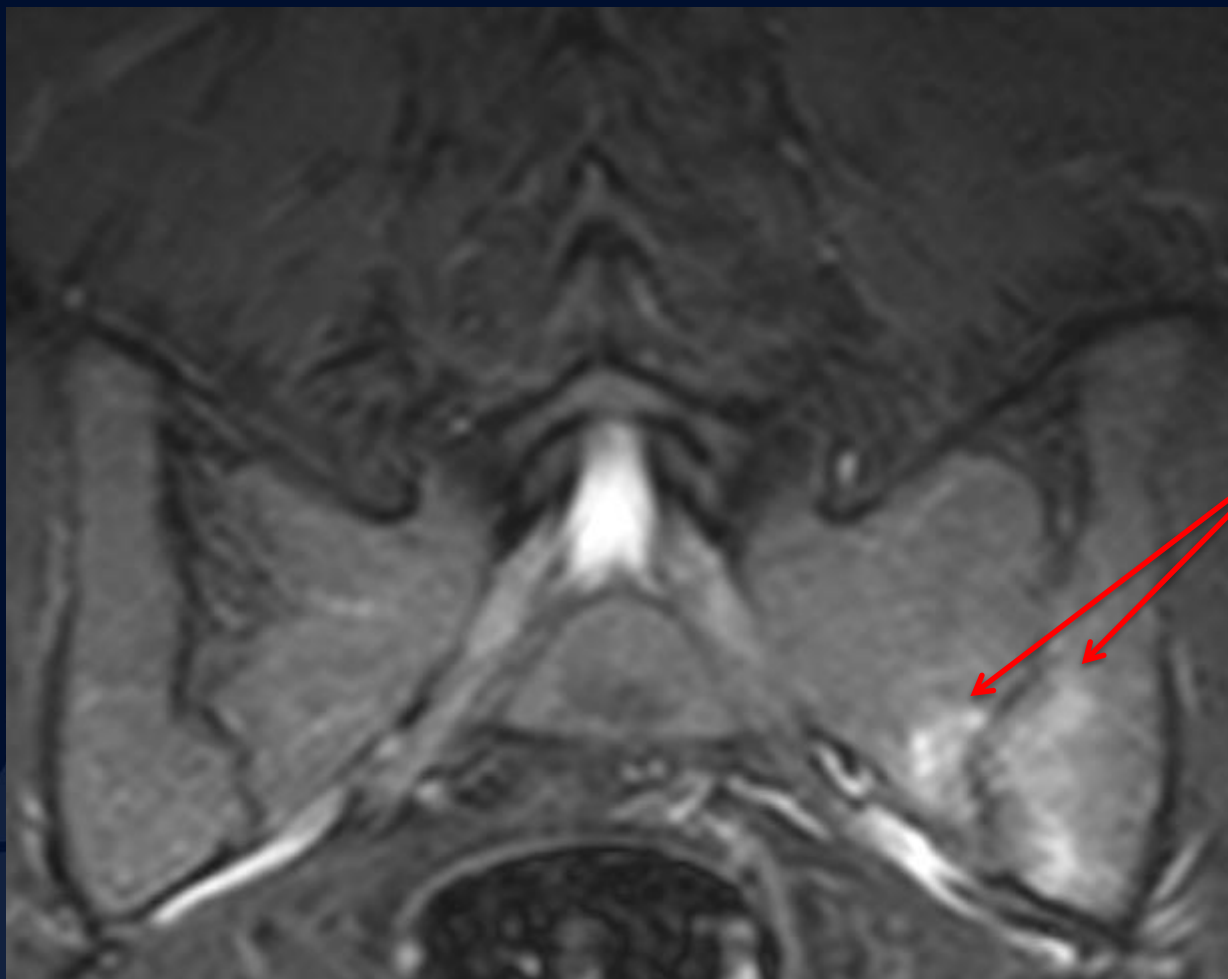


T1 Fat sat post-contrast

A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. The leaf has a prominent central vein and several smaller veins branching off it. The leaf's edge is serrated.

?

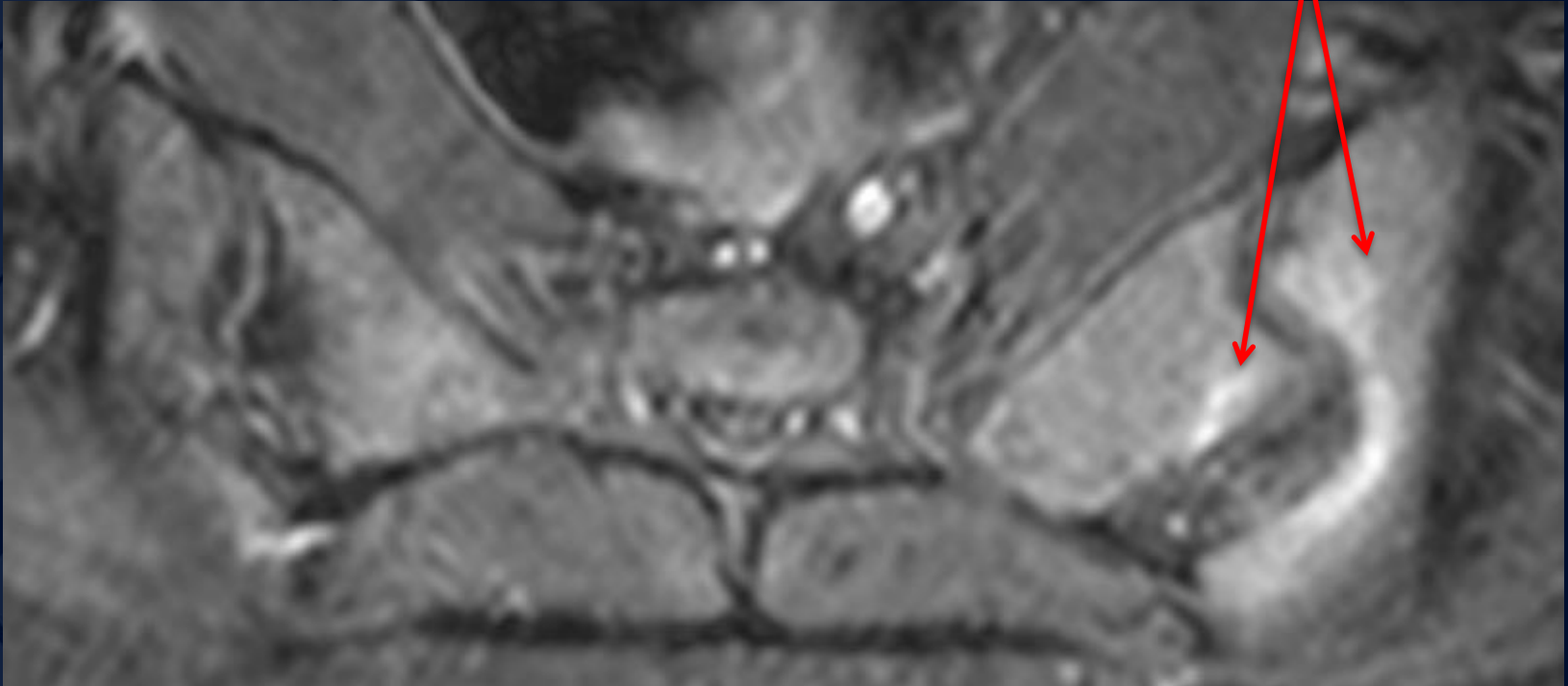
Septic sacroiliac arthritis



Subchondral
marrow T2
hyperintensity

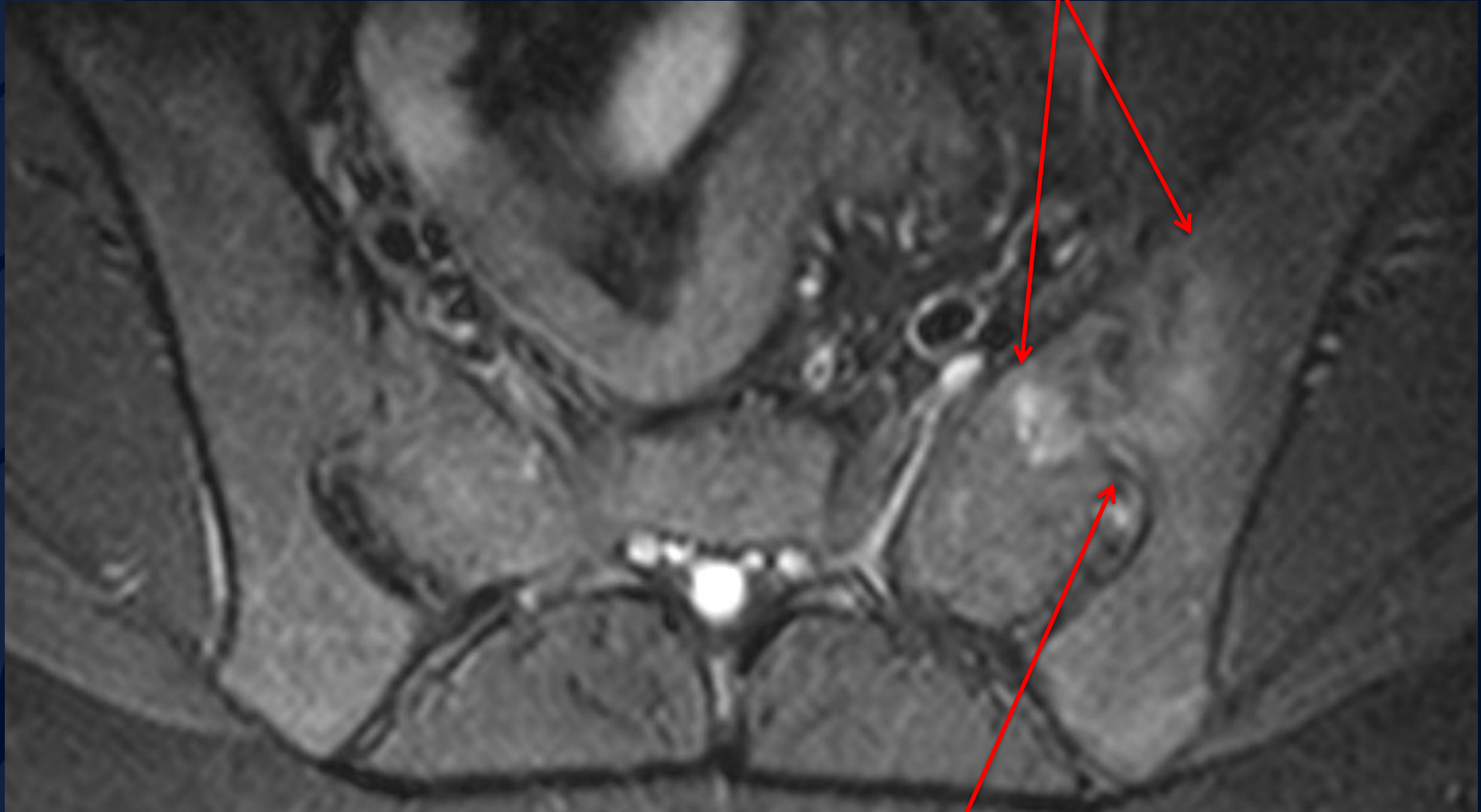
T2 Fat sat coronal oblique

Subchondral
marrow T2
hyperintensity



T2 Fat sat axial

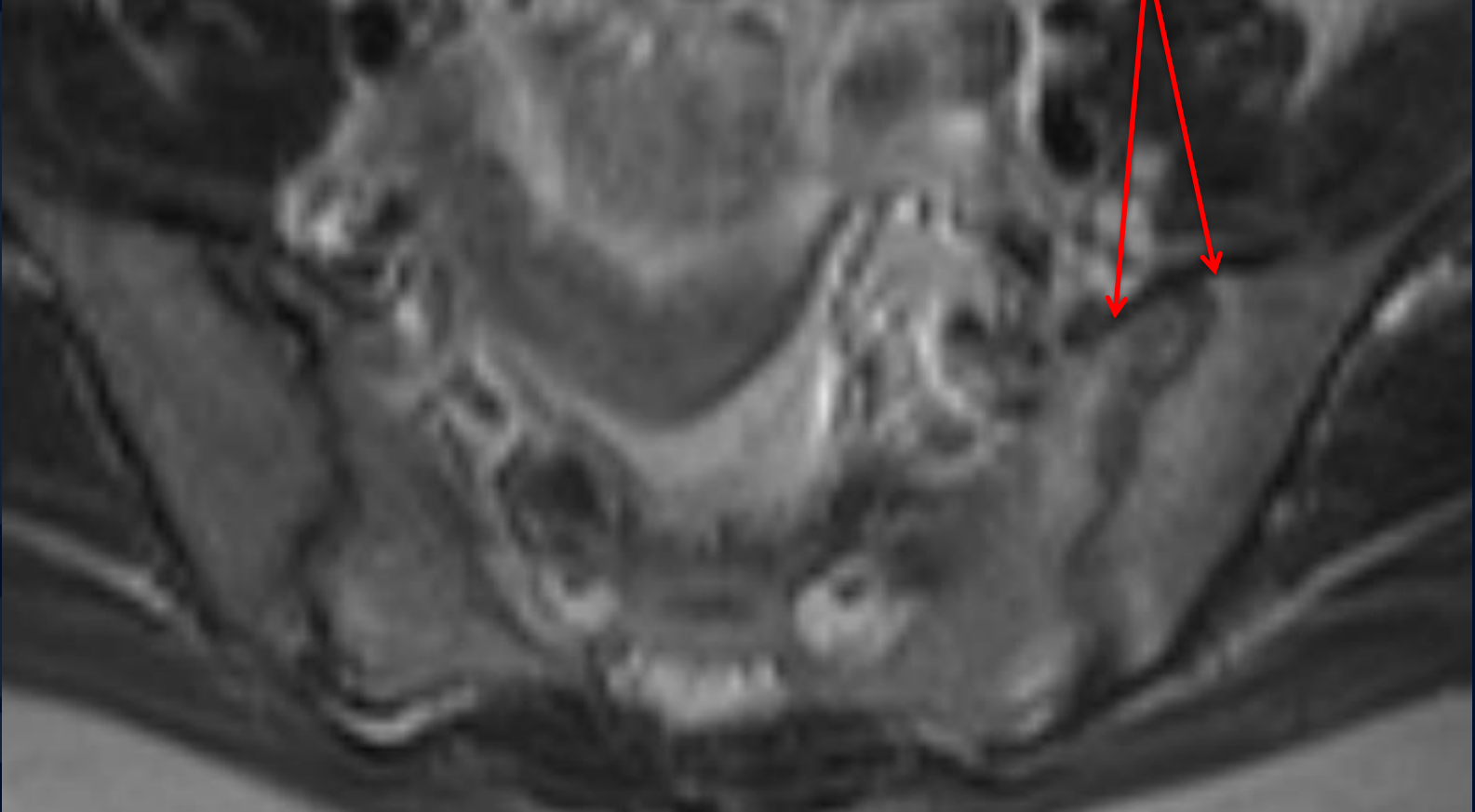
Subchondral
marrow T2
hyperintensity



T2 Fat sat coronal oblique

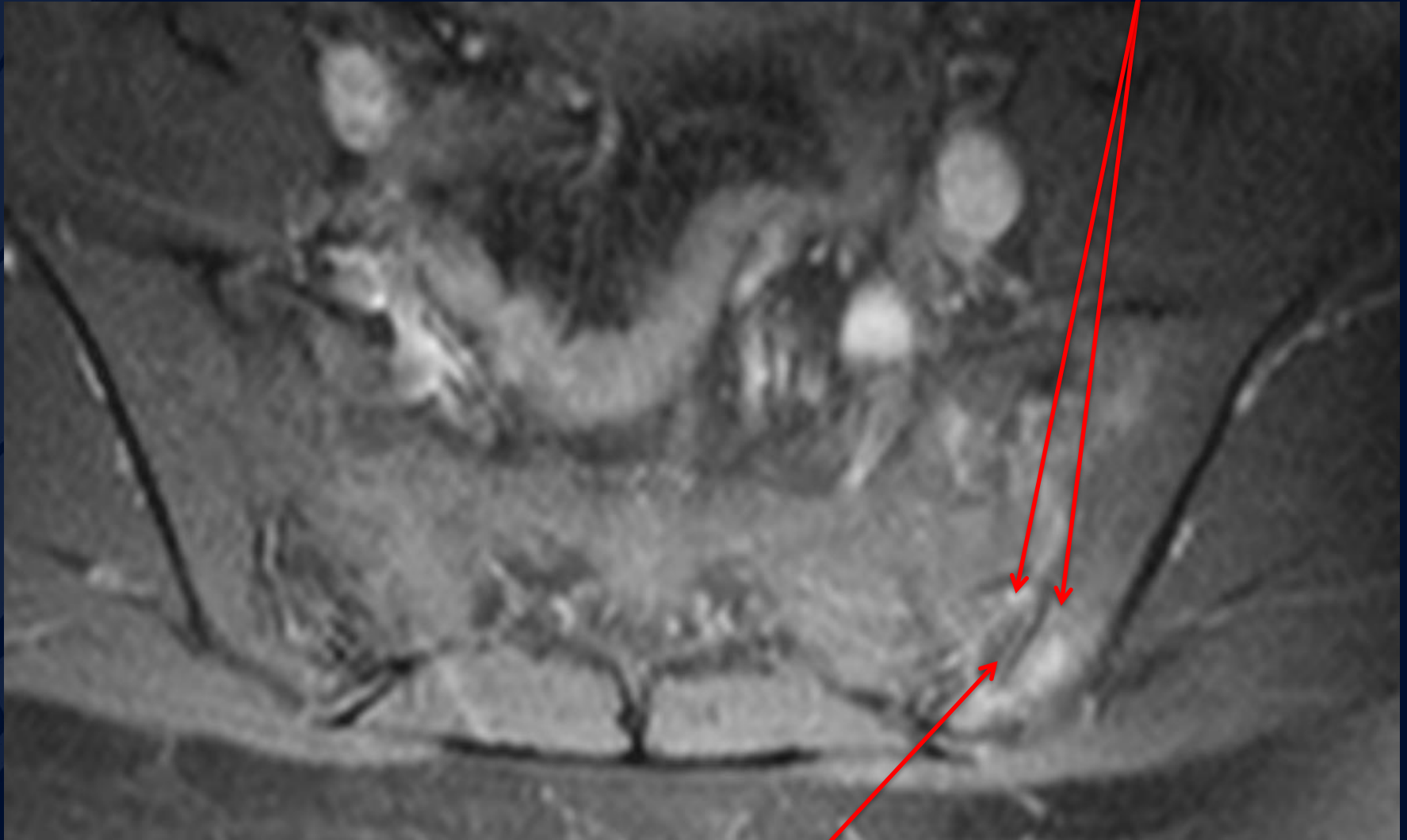
Intra-articular
fluid signal

Subchondral
marrow T2
hyperintensity



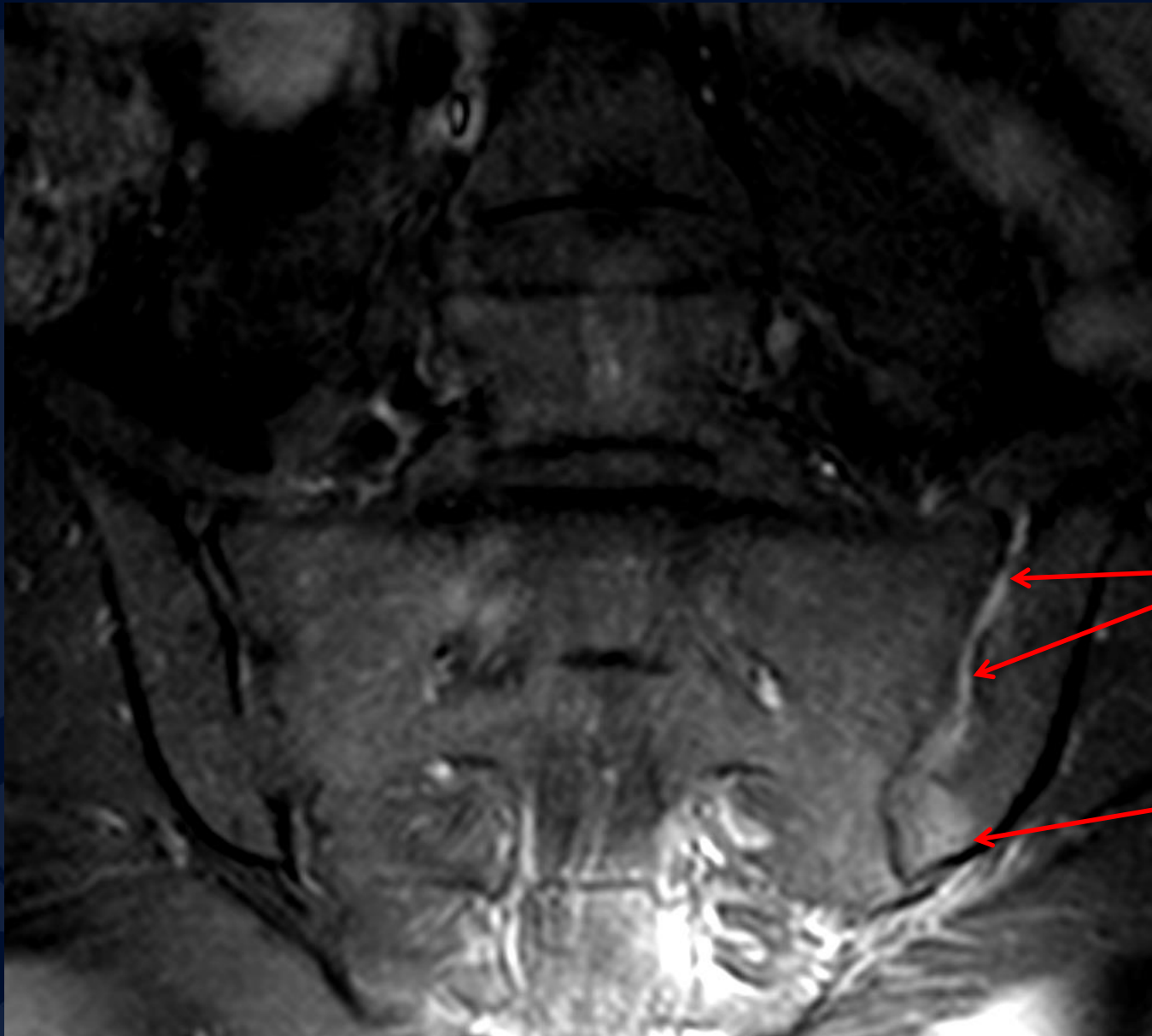
T2

Subchondral
marrow
enhancement



T1 Fat sat post-contrast

Intra-articular
enhancement



Enhancing
intra-articular
fluid

Subchondral
marrow
enhancement

T1 Fat sat post-contrast

Septic sacroiliac arthritis

Septic arthritis

- Can occur in any joint.
- Most common in adults = knee. Children = hip.
- Sacroiliac joint and sternoclavicular joint at particular risk in diabetics, HIV/AIDS patients, and IV drug abusers.
- Increased risk also in chronically ill patients on steroids, rheumatoid arthritis, ESRD, joint surgery, prosthesis.

Septic sacroiliac arthritis

Septic arthritis on radiograph and/or CT

- Insensitive early on, often normal. 1st sign will be a joint effusion.
- Progresses to periarticular osteoporosis, cartilage destruction with joint space narrowing, cortical erosion.
- When chronic, sclerosis develops.

Septic sacroiliac arthritis

Septic arthritis on MRI

- Abnormal within 24 hours of onset.
- Extremely sensitive and rather specific.
- Low T1 signal within subchondral bone on both sides of joint.
- Fluid-sensitive sequences demonstrate hyperintense effusion, hyperintense subchondral bone, and perisynovial soft tissue enhancement.
- Post-contrast T1 fat-saturated imaging demonstrates synovial thickening surrounding effusion, subchondral bone enhancement, and sometimes adjacent soft tissue abscess and/or infectious myositis.
- Unilaterality should raise suspicion for infectious etiology.

Septic sacroiliac arthritis

Septic arthritis on US

- Highly sensitive for joint fluid if joint can be seen with probe.
- Method of choice for hip effusion in children, can also be used to guide aspiration.

Septic sacroiliac arthritis

Septic arthritis – additional considerations

- Clinical emergency; failure to diagnose and treat results in rapid joint damage and ultimately destruction.
- Immediate aspiration for definitive diagnosis. Fluoroscopy or US for guidance.
- Method of choice for hip effusion in children, can also be used to guide aspiration.
- Treatment: antibiotics and drainage. Surgery/arthroplasty in select cases. Infected prosthesis and cement must be removed.
- 60% recover completely; remainder have permanent joint damage to joint.

References

1. www.statdx.com
2. Lin HM et al: Emergency joint aspiration: a guide for radiologists on call. Radiographics. 29(4):1139-58, 2009
3. Ranson M: Imaging of pediatric musculoskeletal infection. Semin Musculoskelet Radiol. 13(3):277-99, 2009

References

EDUCATION EXHIBIT

1139

RadioGraphics

Emergency Joint Aspiration: A Guide for Radiologists on Call¹

Hank M. Lin, MD • Thomas J. Learch, MD • Eric A. White, MD • Chris J. Gottsegen, MD

CME FEATURE

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