



ASIS Stress Reaction in Female Basketball Player

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Background

- 19 year-old female basketball player (188 cm, 61 kg).
- Patient reported right, proximal Quad and Hip discomfort for several days while performing conditioning drills.
- Initially presented as tightness in right Quad and progressed to soreness with running.
- No reported popping, snapping, crunching, or pulling sensation.
- No previous history of Hip injury or pain.
- With no improvement during pre-season, Magnetic Resonance Imaging (MRI) was ordered and revealed inflammation along right ASIS.
- A bone scan was ordered and showed an ASIS Stress Reaction due to Sartorius traction.

Signs & Symptoms

- Point tenderness over right Tensor fascia latae (TFL) and Sartorius region.
- Full ROM, but assisted.
- Soreness with Hip flexion (SLR) & abduction.
- MMT: 4/5 SLR bilateral, Sartorius 4/5, abduction 4+/5, and Glute medius 4/5.
- Positive Trendelenburg test.¹

Early July
2017

Late July
2017

Aug. – Oct.
2017

- Summer training underway with intense cardio regime
- Patient reported to ATF w/ proximal Quad & Hip discomfort
- Differential thought to be strain of Sartorius or acute TFL strain
- Referred for MRI

- MRI reveals inflammation on right ASIS
- Referred for bone scan
- Bone scan reveals ASIS stress reaction

- Limited playing time
- PT/dry needling 1x/week
- Intensive Glute strengthening regime
- Pain modulation via e-STIM, thermotherapy, and cryotherapy
- Full recovery for beginning of season in November

Differential Diagnosis

- Hip Flexor Strain
- Tensor fascia latae (TFL) Strain
- Groin Strain
- Osteitis Pubis
- ASIS Avulsion Fracture
- Lower Abdominal Muscle Strain²

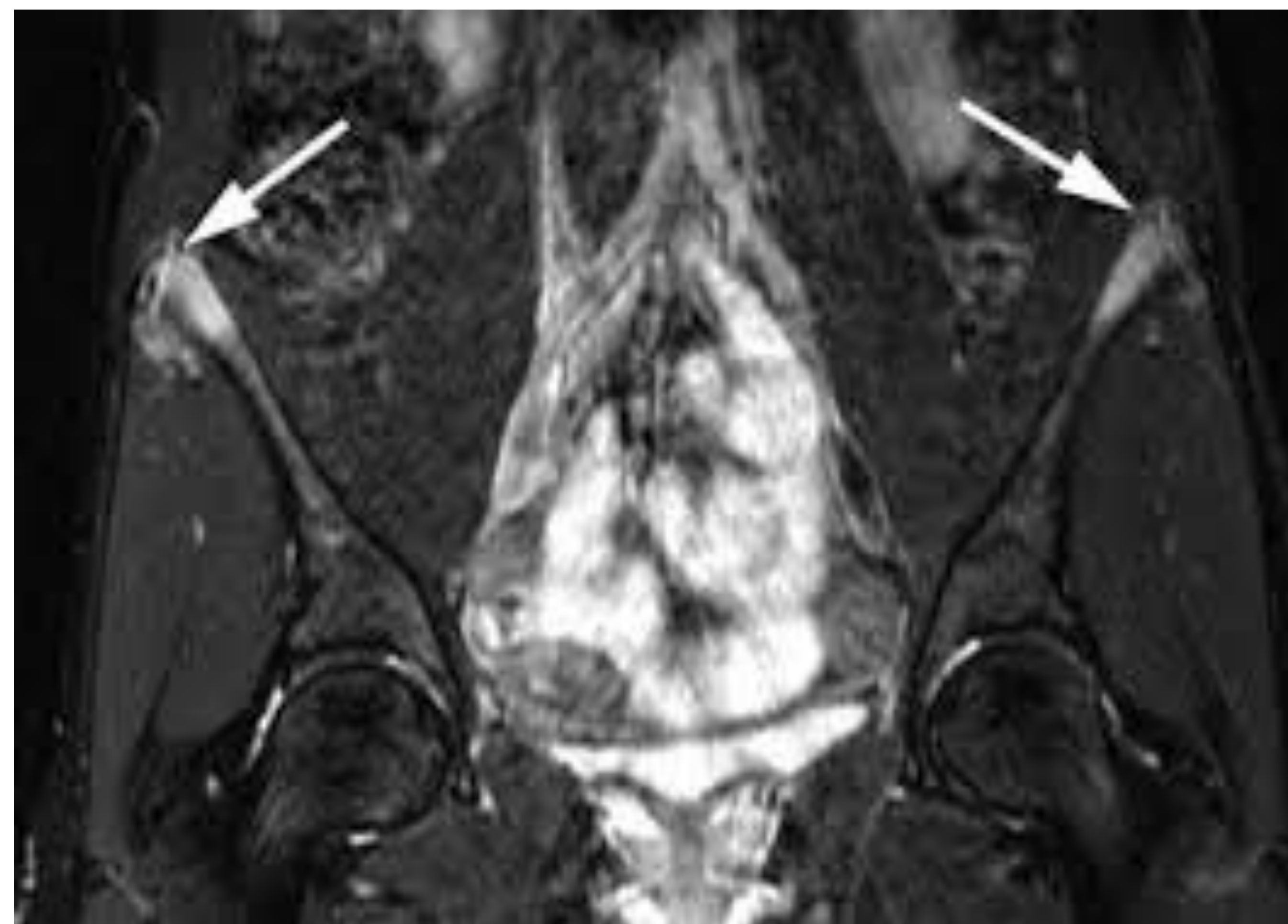


Figure 1: MRI example of ASIS inflammation. Arrow points to inflamed Iliac crest and ASIS prominence (not from patient).³

Treatment

- Focused on rest, pain management, mitigation of inflammation on ASIS, strengthening surrounding musculature, and mobility of lower extremities.
- Patient reduced to limited playing time once diagnosed.
- Patient attended physical therapy (PT) 1x/week for dry needling.
- Pain modulation modalities such as electrotherapy, cryotherapy, and thermotherapy utilized. Patient also underwent IASTM.
- Patient progressed and was able to return to play by beginning of season in November without restriction.

Uniqueness

- Stress reactions on ASIS are very uncommon, especially with Sartorius complications.⁴
- ASIS is a very secure prominence of Ilium and it is uncommon for breakdown of bone to occur in this location as Pelvic area is highly vascular.⁵
- Most similar injury to occur is avulsion fracture of ASIS due to Sartorius in young athletes which occurs because bones aren't fully formed and growth plates haven't fully closed.

Conclusions

- When encountering pain over anterior Hip region in patient, a stress reaction of ASIS should be a possible differential especially when associated with Glute weakness, pain with SLRs, and abduction of the affected leg.
- ASIS stress reaction may be effectively managed with conservative treatment of rest and cryotherapy in conjunction with appropriate mobility and strengthening exercises.
- Knowledge and understanding of differential diagnoses is important and knowledge of special tests and manual muscle testing can help to determine and differentiate diagnoses.

Clinical Applications

- Findings can be used to broaden a clinician's differential diagnoses and better serve patients.
- Helps provide clinicians with a potential treatment framework in the event of an ASIS stress reaction.

References

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