The Hip Spine Connection: How to differentiate hip conditions from those masquerading as spine pathology. A review article

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Disclosures

• American Hip Institute\textsuperscript{a}, AANA Learning Center Committee\textsuperscript{a}, Amplitude\textsuperscript{c}, Arthrex\textsuperscript{b,c,d}, ATI\textsuperscript{b}, Breg\textsuperscript{b}, DJO Global\textsuperscript{d}, Orthomerica\textsuperscript{d}, Pacira\textsuperscript{b,c}, Stryker\textsuperscript{b,c}

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Background

• Practitioners who treat spine pathology will commonly encounter patients with pain around the hip
• Both can manifest with discomfort in the groin, buttock, lateral hip region, thigh, and even the knee.
• Cross-innervation between spine and hip can lead to diagnostic confusion: Lumbosacral plexus (L2-S5)
• Complex biomechanical interaction between the axial and appendicular skeleton
Purpose

• Elucidate the interaction between the hip and spine

• To assist the spine clinician in recognizing the hip as a potential confounding source of pain

• Direct the workup and management
Concepts

- Hip Spine syndrome: Offiersky and McNab
  - Patients with hip flexion cx have increase LL
  - Compensatory increased pelvic rotation results in increased facet loading and arthrosis

- Spine Hip syndrome: Yoshimoto et. al.
  - Increase PI in younger individuals may result in hip osteoarthritis because of relative uncovering of the acetabulum
Concepts

• Spinal alignment and FAI: Gebhardt et. al.
  o Association between decreased PI and femoral cam lesions and acetabular pincer lesions
    ➢ This supports that the spinopelvic axis may be a contributing factor to femoroacetabular impingement (FAI).

• Asymmetric hip rotation esp. internal rotation, may result increase incidence of LBP: Sadeghisani et al.
  o sports requiring significant trunk rotation such as golf and tennis
Diagnostic algorithm

H&P

Spine

Equivocal

Intra-articular Hip
- Pain with log roll
- Positive impingement tests
- Activity related groin pain

Intra-articular Hip Injection*

Complete Relief

Incomplete or No Relief

Axial Tenderness or Sacroiliac Joint Tenderness or Radiculopathy

Abdominal or Gynecological

Buttock or Lateral Thigh Pain or Tenderness

Groin Pain**
- Snapping:
  - Internal Coxal Saitans (iliopsoas)
- No Snapping:
  - Adductor Tendinitis
  - Osteitis Pubis
  - Sportsman’s Hernia

Extra-articular Hip

Buttock Tenderness**
- Deep Gluteal Space:
  - Hamstring
  - Piriformis
  - Ischiofemoral impingement

Peretrochanteric Tenderness**
- Snapping:
  - External Coxal Saitans (IT band)
- Normal Gait and Adductor Strength
- Trochanteric Bursitis
- Trendelenberg Gait and Adductor Weakness
  - Gluteus Medius Tear
Conclusions

• History
  o Groin pain
  o Lack of radicular symptoms,
  o Positive impingement test
  o Favorable response to intra-articular injection of local anesthetic

• MRA hip

• Extra-articular hip pathologies
  o gluteus medius tears,
  o internal or external snapping (coxa sultans)
  o deep gluteal space conditions
Thank You

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