Case

- 67 y.o., pensioner
- Difficulty walking, causing pain in the lower back, R buttock & R groin
- Slight limp when the pain gets worse
- In the last month, has only been playing 9 instead of 18 holes
- Difficulty keeping w/ his friends & doesn't enjoy golf as much

- Limbo-sacral area (R>L), R buttock R groin
- Lately been feeling pain in R knee
- Onset gradual over last 3 months
- Pain & stiffness
- 5/10
- Getting worse
- No clear pattern; depends on activity

AF: pain & stiffness usually start after walking 2-3 holes, but gradually increase as he plays more holes
- **RF:** sitting after a round of golf diminishes the pain after a while
- **AA:** Lately sometimes struggles to finish 9 holes

Extras
- Stopped smoking at 40 y.o. (previously 10-20 cigarettes / day for 20 yrs)
- 2 pints of beer / night
- Father: diagnosed w/ Parkinson's disease @ 74 y.o.
- Mother: diagnosed w/ RA & had knee replacement @ 84 y.o.

Physical Examination Findingscal

Gait
- Slight limp on R

ROM
- **AROM & PROM Lx:** slightly reduced flexion & rotation (R) w/ some discomfort in his lower back & R buttock @ end range
- **PROM hips:** internal & external rotation of R hip reduced by approx 25% compared to L, w/ pain felt in the R groin; hip flexion & extension slightly limited & painful on R

R glut palpations: tender locally & reproduces some pain into R leg towards his knee

Iliopsoas: tight bilaterally (R>L)

SLR
- 65° bilaterally w/ some pulling at hamstrings

Discussion

Working diagnosis
- Hip OA
- Associated w/ mechanical LBP & myofascial pain syndrome (compensation for the hip)

- Sx aggravated w/ activity & relieved w/ rest
- Triage: mechanical / degenerative

Hip joint
- Doesn't normally refer pain to low back ∴ unlikely cause of the back pain
- Can refer to the knee (& vice-versa) ∴ could be the cause of leg pain towards the knee

→ But pain was reproduced by palpation of gluteal muscles suggesting active trigger points

Discussion (cont)

Differentials

- **Vascular claudication:** pain in thigh, calf, or buttocks that happens when walking
- **Inguinal hernia:** most common hernia; swelling/lump in groin or enlarged scrotum
- **Hip dysplasia:** acetabulum is too shallow to support femoral head; females more affected
- **Femoroacetabular impingement (FAI):** extra bone growth of joint causing rubbing against each other
- **Labral tears the hip:** injury to tissue that holds hip joint together; pain, reduced ROM, sensation of hip *locking-up*

Previous Hx

- LBP & R leg pain below the knee, worse eon sitting: suggest prior Hx of radicular pain or radiculopathy

→ Current presentation doesn't have the same pattern

- Radiculopathy due to disc herniation **less likely**: pain is relieved by sitting, no SMR findings & pain doesn't follow a dermatomal pattern

What other exams could have been conducted?

- **Respiratory exam:** former heavy smoker for 20 yrs
- **Knee examination:** referred hip pain to knee, & vice-versa

Learning Outcomes

Differentials for LBP w/ buttock pain

- **Muscle strain:** results from lifting heavy objects, poor posture, or sudden movements
- **Sciatica:** can cause sharp shooting pain from lower back through buttocks & down the legs
- **Herniated disc:** can cause localised pain as well as radiating pain into buttocks & legs
- **Spinal stenosis:** narrowing of spinal canal; can cause LBP w/ buttock & leg pain that worsens w/ walking or prolonged sitting
- **SIJ dysfunction:** (or inflammation) can cause pain in lower back & buttocks
- **Piriformis syndrome:** tight or spasms, it can compress sciatica nerve; can cause buttock pain that may radiate down the leg
- **Spondylolisthesis:** forward displacement of one vertebra over another; can cause lower back pain as well as buttock pain & may be accompanied by leg Sx if nerve roots are affected
- **Inflammaotry conditions:** e.g. ankylosing spondylitis (type of arthritis affecting spine); can cause chronic LBP & buttock pain (particularly in young adults)
- **Infection:** e.g. osteomyelitis (bone infection) or disci tis (disc infection); can cause LBP w/ other Sx like fever & swelling

Pathophysiology of OA

☐ ***Mechanical stress:***

- Repetitive mechanical stress causing micro trauma to cartilage & breakdown
- Abnormal joint mechanics, as above

☐ ***Inflammation:***

- Inflammatory cytokines can cause cartilage breakdown & joint inflammation

☐ ***Age:***

- Ability for cartilage to repair itself decreases w/ age
- More susceptible to damage & breakdown

☐ ***Genetic:***

- Predispositions of OA
- Gene abnormalities involved in cartilage metabolism or inflammation

☐ ***Metabolic:***

- Obesity
- Insulin resistance (diabetes) increases risk of OA (through release of inflammatory mediators & oxidative stress)

Learning Outcomes (cont)

Understand all about OA (cartilage breakdown):

☐ ***Presentations:***

- **Hip pain:** deep achefekt in groin or buttock area; worse when weight-bearing; improve w/ rest
- **Hip stiffness:** especially in the morning or after prolonged inactivity
- **Decreased ROM**
- **Cracking or popping** sounds
- **Weakness of hip muscles:** affecting walking, stairs, etc

☐ ***Diagnosis:***

- (w/o imaging): +45 y.o AND have activity-related pain AND morning stiffness for 30+ min

☐ ***Management:***

- Local muscle strengthening, general aerobic fitness
- Doing regular & consistent exercise, though may initially cause pain/discomfort
- Manual therapy alongside therapeutic exercise
- **NO** acupuncture

Referral patterns for trigger points in muscles of the buttock

- **Gluteus medius:** lateral hip, thigh, & buttocks
- **Gluteus maximus:** posterior thigh & lower leg
- **Piriformis:** down posterior thigh & into calf
- **Quadratus femoris:** hip joint, groin, & knee
- **Obturator interns:** hip joint & groin

Guidelines for the management of OA, especially hip OA

- Hip is 2nd most common OA location
- Therapeutic exercise & weight management (if appropriate)
- Provide information & support
- Exercise, little & often
- Manual therapy: massage, exercises, ROM & strengthening
- Hydrotherapy is beneficial

Referral guidelines for imaging in a pt w/ suspected OA

- Don't require imaging for diagnosis of OA: medicalHx & examinations will suffice
- Imaging findings don't always correlate well w/ the pt's Sx (particularly in early stages of OA)
- No gold standard
- Considered if OA severe, underlying condition or for monitoring
- **Possible:** X-ray, MRI, & ultrasound

Learning outcomes

Looks like hip OA from Hx and physical examination

- Walking differently causing myofascial problems
- Knee examination SHOULD HAVE been done((nl))- Hip OA management
- imaging not necessary (no imaging for osteoarthritis unless daily activities are affected)

KNOW REFERRAL PATTERNS FOR MYOFASCIAL TRIGGER POINTS - TRIVAIL AND SIMONS