Osteoarthritis

Osteoarthritis (OA) is a disorder of hyaline cartilage and subchondral bone resulting in joint degeneration and peri-articular tissue hypertrophy.

Pathophysiology

There are focal areas of damage to load-bearing articular cartilage, new bone formation at the joint margins (osteophytosis), changes in the subchondral bone (sclerosis), inflammation of the synovium (synovitis) and thickening of the joint capsule.

Epidemiology

- Prevalence rises with age. Starts in 2nd-3rd decade and universal by 8th decade.
- F>M

Risk factors

- Increasing age
- Female sex (for knee disease)
- Family history (several chromosomal loci and gene variations identified)
- Previous joint injury
- Joint malalignment problems such as Perthes disease, slipped femoral epiphysis, CDH
- Obesity
- Occupational (knee OA in elite athletes, elbow OA from pneumatic drills)
- Ethnic origin (more common in white Europeans)

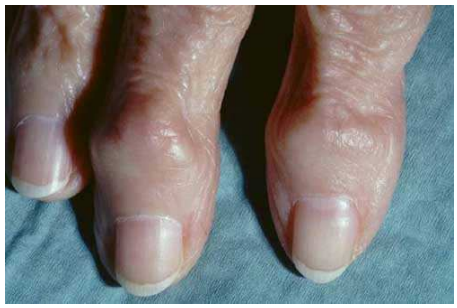
Presentation

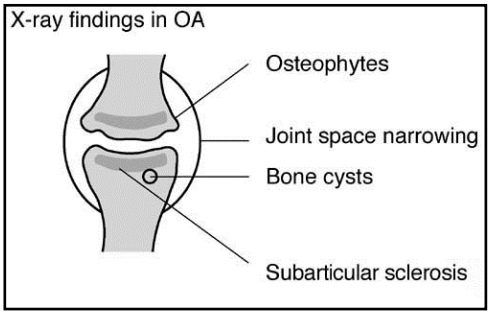
Symptoms

- Most commonly affects the knees, hips, hands, neck and low back.
- Joint pain that is exacerbated by exercise and relieved by rest.
- Joint stiffness in the morning or after rest.
- Reduced function and participation restriction.
- Hip OA pain felt in groin and ant-lat thigh. May be referred to knee or ipsilat testis.

Signs

- Reduced ROM & pain on joint movement
- Joint swelling/synovitis (warmth, effusion, synovial thickening)
- Periarticular tenderness
- Crepitus
- Bony swelling and deformity due to osteophytes - in the fingers Heberden's nodes (DIPJ) or Bouchard's nodes (PIPJ).
- Joint instability
- Muscle weakness/wasting around joint





Investigations

Bloods: FBC , ESR (r/o septic arthritis)
Imaging: Xrays, MRI, arthroscopy
Other: Joint aspiration for DDx (gout, septic arthritis, etc.)

Differential diagnosis

Septic arthritis	Viral arthritis	Referred pain
Gout	Reactive arthritis	Sarcoidosis
Pseudogout	Rheumatoid arthritis	Infective endocarditis.
Bursitis	Seronegative arthritis	
Psoriatic arthritis	Connective tissue disease	

Management

Supportive: Weight loss, exercise, stretching, local heat and cold, walking aids
First line drug treatment: Paracetamol, topical NSAIDs
Other drug treatments:

- Oral NSAIDs or COX-2 inhibitors (consider co-prescribing PPI, care in IHD)
- Opioids
- Intra-articular corticosteroid injections
- Topical capsaicin
- Glucosamine or chondroitin sulphate - controversial as conflicting studies.

Surgery: Joint replacement (lasts ~15yrs), osteotomy, laminectomy

Prognosis

- Most people affected by OA do not become severely disabled.
- Knee OA has worst 10yr prognosis and hand OA has the best.