Osteoarthritis

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Definition: common form of arthritis and pain, disability, age-related , focal loss of articular cartilage cartilage, subchondral sclerosis, osteophyte formation, joint enlargement.

Epidemiology:

- The prevalence rises progressively with age.
- Knee 45% and hip 25% of people at some point during life
- Can be asymptomatic ,Pain symptoms more in female but in hip equal.
- Ethenic: hip OA is lower in Africa, China, Japan and the Indian than eurepean.

Aetiology:

complex disorder. Enviromental, mechanical, genetic

Local factors: Increase in wt., injury, occupation, developmental abnormalities, joint laxity, RA, gout.

Systemic factors: Sex horm. Genetic, racial, low vit. D and C, hemochromatosis, hyperlaxity.

Pathology:

- Increase in breakdown, degredation of aggrecans and collagen II ---- Metalo-proteinase.
- Proinflammatory cytokine, prostoglandin., reactive O2 species.
- Mechanical stress.
- Gradual loss of cartilage., fissuring, deep vertical cleft.(initially at maximum load) CPPD, HA crystal.
- Subchondral bone, osteophyte, contracted capsule, M. atrophy.
- Mild syn. Inflammation.

Clinical features:

Symptoms:

Pain.

Intermittent, use related.

Gelling.(short, brief inactivity stiffness)

Correlation ,The correlation between the presence of structural change, pain and disability varies markedly according to site. Hip more than knee

Coexistence with other conditions, so it is important to remember that pain in a patient with OA may be due to another cause.

Signs:

- Restricted mov.
- M. spasm.
- Crepitus.
- Bony swelling.
- Deformity.
- M. weakness.
- Synovitis.

Nodal generalized OA

Polyarticular finger interphalangeal joint OA

Heberden's (± Bouchard's) nodes

Marked female preponderance

Peak onset in middle age

Good functional outcome for hands

Predisposition to OA at other joints, especially knees

Strong genetic predisposition


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EARLY ONSEOSTEOARTHRITIS

symptoms and signs of OA may present before the age of 45

- Single joint , trauma, localized cause
- Several joints: unsual sites for OA:
  - Juvenile idiopathic arthritis
  - Metabolic or endocrine disease
  - Haemochromatosis, Ochronosis
  - Acromegaly
  - Spondylo-epiphyseal dysplasia
  - Late avascular necrosis, Neuropathic joint
  - Kashin–Beck. is a rare form of OA that occurs in children,

typically between the ages of 7 and 13, in some regions of china (celenium defecincy, mycotoxin contamination?)

Erosive OA

Usually hand, prolong symptoms , more inflammations, more .disabilty and worse outcome than nodal hand OA function

mainly PIP subchondral bone destruction , even bony ankylosis, not asscociated with OA else where .

Investigations

- A plain X-ray of the affected joint show one or more of typical features of OA.
- joint space narrowing , subchondral sclerosis , marginal osteophytes and bone cysts .
- X-ray of spine OA typically shows evidence of disc space narrowing and osteophytes.
- If nerve root compression or spinal stenosis is suspected, MRI should be performed

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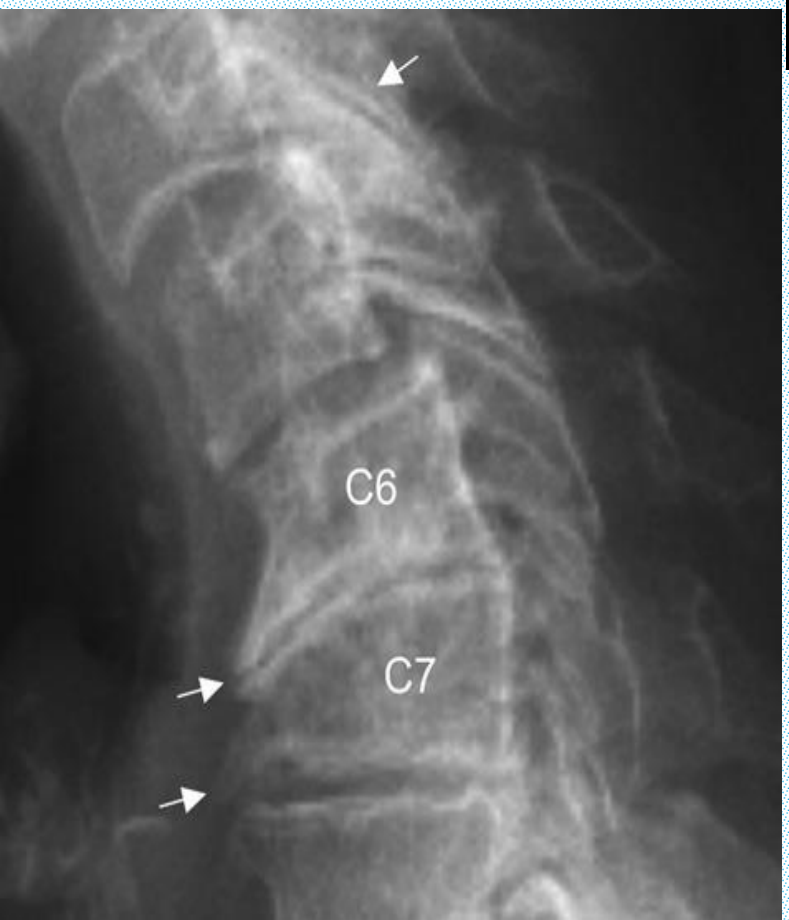
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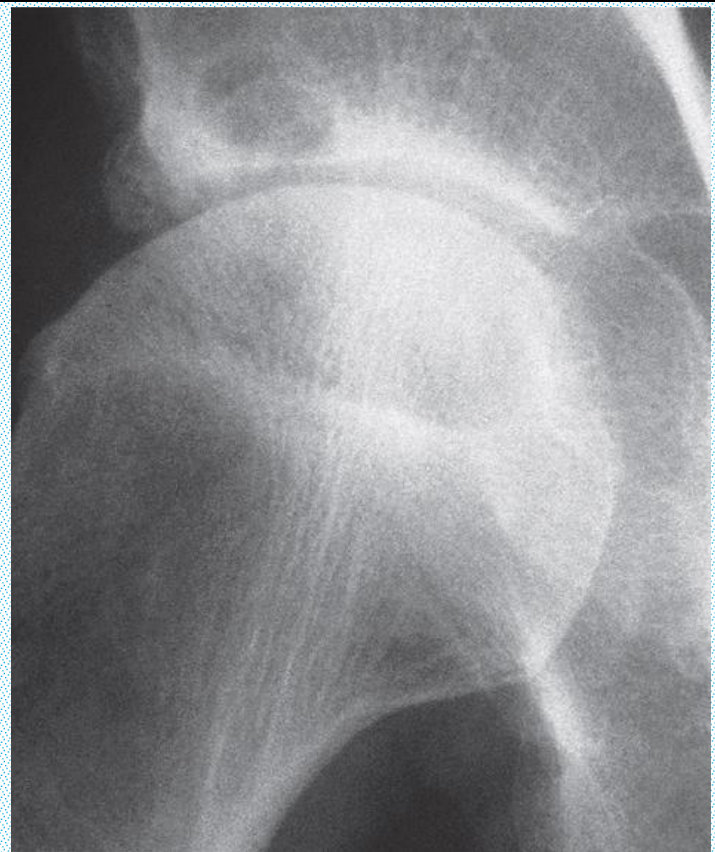

Radiological

Synovial fluid

aspirated from an affected joint is viscous with a low cell count

unxplained early-onset OA requires additional investigation, guided by the suspected underlying condition.

Management.

Education : about

-The nature of the disease .Although established structural changes are permanent but, pain and function can often be improved.

-Relevant risk factors such as obesity, heredity trauma.

-Prognosis , wich is generally good for nodal hand OA and better for knee than hip OA .

Non pharmological treatment:

-Weight loss is one of most effective treatment for lower limbs joints.

-. Strengthening and aerobic Quadriceps strengthening exercises are particularly beneficial in knee OA.

-Shock-absorbing footwear

- Pacing of activities

-Use of a walking stick for painful knee or hip OA

- Built-up shoes to equalise leg lengths .

-Acupuncture and transcutaneous electrical nerve stimulation (TENS) have been shown to be effective in knee OA.

Local, heat or cold, can sometimes give temporary relief.

Pharmacological therapy : If symptoms do not respond to non-pharmacological measures,

Paracetamol should be first tried.

-Addition of a topical NSAID, and then capsaicin, for knee and hand OA can also be helpful.

-Oral NSAIDs , when symptoms persist and can be successfully combined with paracetamol or compound analgesics if the pain is severe . You should considered the hazardous side effects and its contraindications.

-Strong opiates may occasionally be required temporarily .

-Antineuropathic drugs, such as amitriptyline, gabapentin and pregabalin, are sometimes used in patients with symptoms that are difficult to control but the evidence base for their use is poor.

Intra-articular glucocorticoid injections

especially in knee OA and first CMC joint.

. Intra-articular injections of hyaluronic acid are effective in knee OA but the treatment is expensive and the effect short-lived

Neutraceuticals Chondroitin sulphate and glucosamine sulphate for the treatment of knee OA.

Evidence from RCT that these agents can improve knee pain to a small extent (3–5%) compared with placebo.

Surgery :

For patients with severe functional impairment despite of optimal conservative treatment

-Total joint replacement surgery is by far the most common surgical procedure for patients with severe knee or hip OA.


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-Osteotomy

is occasionally carried out to for malaligned joints

- Cartilage repair is sometimes performed to treat focal cartilage defects resulting from joint injury


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