Inflammatory Disorders of the Spine

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Ankylosing Spondylitis

Rheumatoid Arthritis

Ankylosing Spondylitis

- Seronegative spondyloarthropathy.
- Strong familial tendency
- HLA-B27
- Male:Female; 2:1 – 10:1
- Enthesopathy:
  1. Diarthrodial joints.
     - SI joints, vertebral facet joints, costovertebral joints.
  2. Fibro-osseous junctions, syndesmotic joints.
     - Intervertebral discs, symphysis, manubriosternal joints.

Ankylosing Spondylitis

- Clinical features:
  - Insidious onset low back pain.
  - Morning stiffness.
  - Progressive spinal flexion deformities.
    - Early: Little to find? Decreased lumbar lordosis. SIJ pain.
    - Late: Loss of lumbar lordosis. Thoracic kyphosis. Chin-on-chest deformity. Flexed hips and Knees.
  - 'Wall test'
  - Spine ankylosed
  - Protrusio acetabuli
  - Heterotopic ossification.

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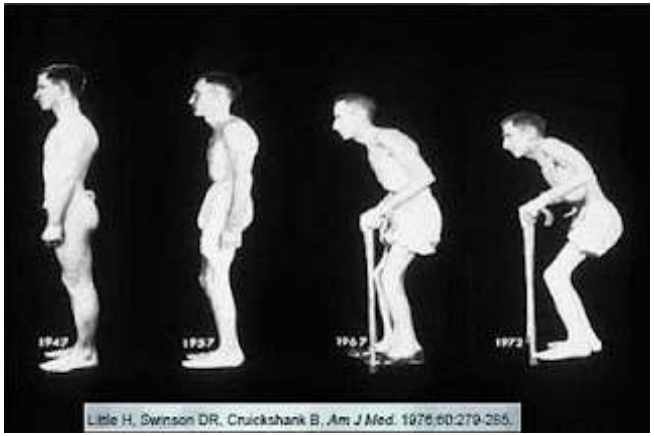


Ankylosing Spondylitis

- Pathological changes:
  1. Inflammatory reaction.
  2. Replacement of granulation tissue with fibrous tissue.
  3. Ossification of fibrous tissue = ankylosis.

- Extraskeletal manifestations:
  - Cardiac
  - Pulmonary
  - Uveitis
  - Amyloidosis

Ankylosing Spondylitis

- Management:
  - Physiotherapy: exercises, flexibility, posture.
  - NSAIDs
  - DMARDs
  - TNF blockers
    - NICE Guidance
    - Bath Ankylosing Spondylitis Disease Activity Index (BASDAI)
  - (Bisphosphonates)
  - (Corticosteroids)

Ankylosing Spondylitis

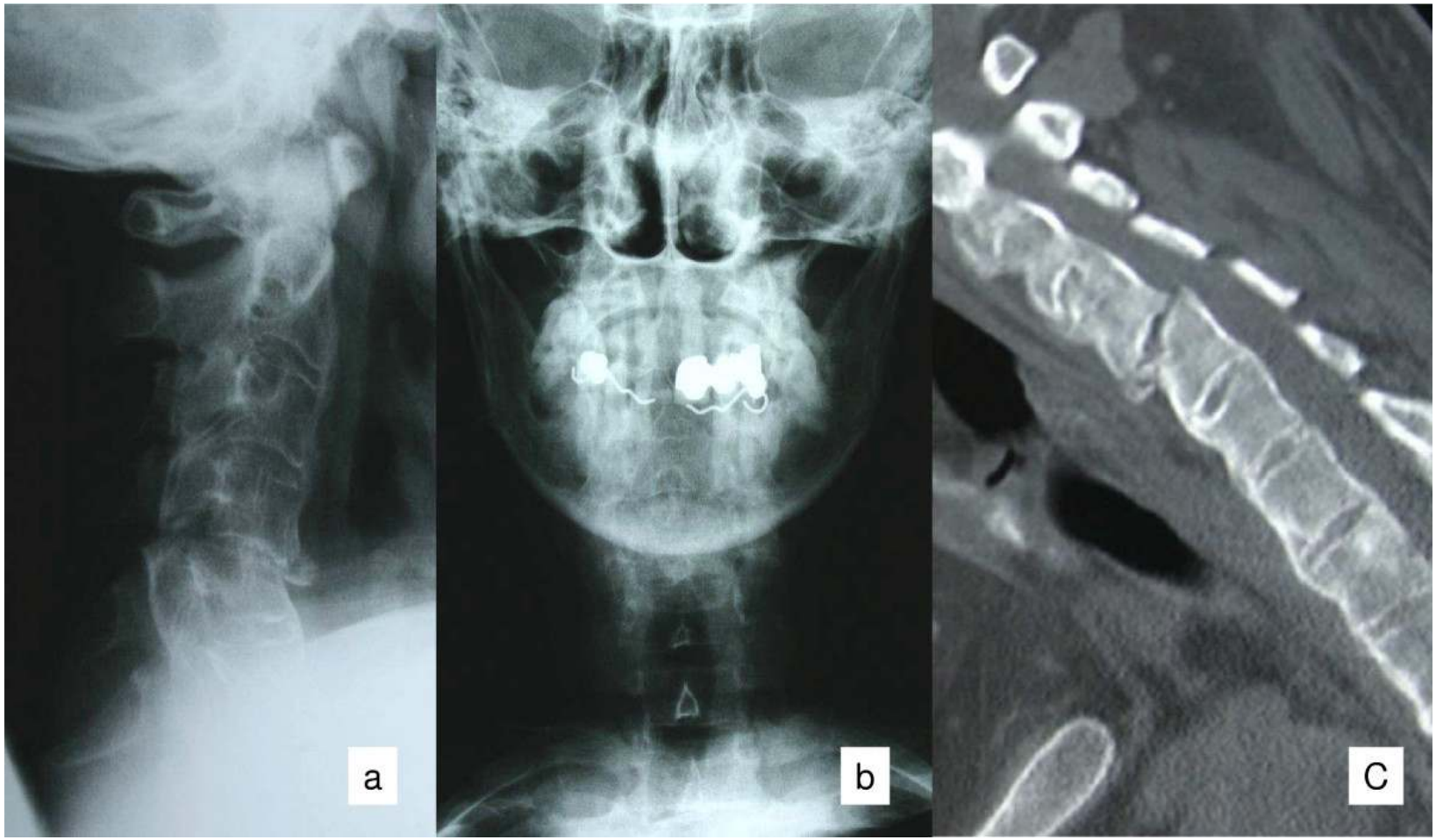
- Surgical Management:
  - Hips 1st!!!!
  - Extension osteotomy.
  - Corrective osteotomy cervicothoracic junction.

  - Non-union, loss of correction, neurologic complications, vascular complications!!!

Ankylosing Spondylitis

- Fractures!!!
  - Extension injuries. Usually lower c-spine.
  - Highly unstable & Frequently missed!
    - Must CT +/- MRI.
    - X-ray has high false negative.
    - Non-contiguous injuries are common.
  - Longitudinal traction = Bad!
  - Aggressive surgical approach!
  - High complication rates.

Ankylosing Spondylitis



Rheumatoid Arthritis

- Symmetrical, erosive, deforming, autoimmune, inflammatory polyarthropathy.
- Diagnosis:
  - Morning stiffness >1hr for >6wks.
  - Swelling. 3 jts for >6wks.
  - Wrist or hands >6wks.
  - Bilateral symmetrical polyarthritis >6wks.
  - Rheumatoid nodules.
  - +ve Rh factor.
  - Radiographic changes.

Rheumatoid Arthritis

- Extraskeletal manifestations:
  - Cardiac
  - Respiratory
  - Nodules
  - Vasculitis
  - Neuropathy
  - Felty's syndrome
  - Sjögren's syndrome

Rheumatoid Arthritis

- Early:
  - Synovitis without destruction.
- Intermediate:
  - Involvement of tendon sheaths
    - Rupture. Displacement.
  - Joint erosions.
- Late:
  - Gross deformity and loss of function.

Rheumatoid Arthritis

- Management:
  - Control synovitis.
    - Splints.
    - NSAIDs, DMARDs, TNF blockers.
  - Maintain joint function
    - Physio
  - Prevent deformity
  - (Reconstruction)

Rheumatoid Arthritis

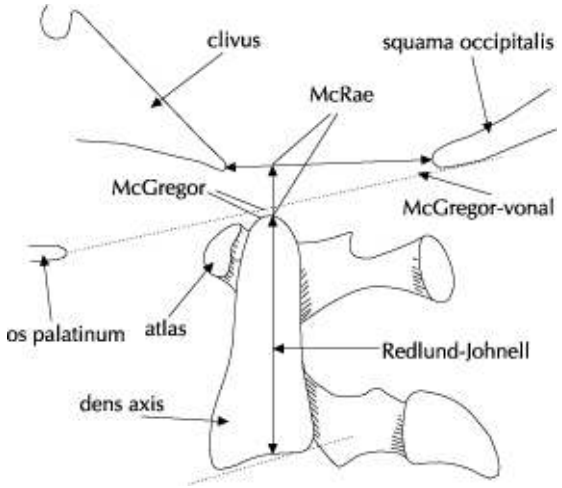
- Spinal Manifestations.
  - Atlanto-axial subluxation.
  - Cranial settling.
  - Subaxial subluxation.

- Neck pain, decreased ROM, crepitation, occipital headaches…
- Weakness, paraesthesia, hyper-reflexia…

Rheumatoid Arthritis

- Atlanto-axial subluxation. (50-80%)
  - Pannus – destruction of transverse ligament +/- dens.
  - Progressive instability. Myelopathy.
  - PADI <14mm. Excessive motion >9mm.

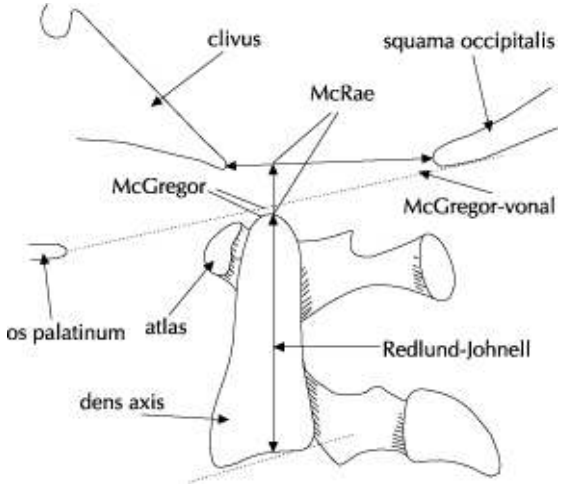
  - Posterior spinal fusion.
  - Removal of posterior arch.
  - To occiput?
    - Decrease pseudarthrosis (10-20%)



Rheumatoid Arthritis

- Basilar Invagination. (40%)
  - Erosive changes between occiput, C1 and C2.
  - Brainstem compromise?
    - Retropharyngeal odontoid resection + stabilisation.

- Subaxial subluxation. (20%)
  - Males, steroids, nodules…
  - Sublux >4mm.
  - Neurologic compromise.
  - Posterior fixation.



Surgery? Think!!!

- Omptimisation.
  - Cardiac, Pulmonary.
- Anaesthetic.
  - C. spine.
- Fixation.
  - Osteoporosis.
- Healing.
  - DMARDs
  - Steroids.
  - TNF blockers. 2-4 wks before. 2-4 wks after?

Questions?


THE BAD NEWS IS, WE HAD TO REMOVE YOUR SPINE.... THE GOOD NEWS IS, IT HOLDS TWENTY FIVE CDS
Paul T