OSTEITIS / OSTEOMYELITIS

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MECHANISM OF INFECTION

- Haematogenous Spread
- Direct inoculation
  - Trauma
  - Complication of Surgery
ACUTE / CHRONIC

- Acute Haematogenous osteitis
- Children
ANATOMY

• Anatomy of long bone
• Blood supply
• Blood supply in a neonate
• Relation of growth plate to the joint
CAUSATIVE ORGANISM

- Staph Aureus
- Steptococcus
- Haemoplylus
- Pneumococcus
PATHOLOGY

- Transient Bacteraemia in children
- Minor trauma $\Rightarrow$ Haematoma
- Blood a good culture medium for bacteria.
- Suppuration $\Rightarrow$
- Necrosis $\Rightarrow$ Sequestrum
- New Bone Formation – involucrum cloaca
ANATOMY OF A SYNOVIAL JOINT
CLINICAL PRESENTATION

- Child – immature skeleton
- History of trauma
- Pain - localized
  - severe
  - not relieved by rest
  - short duration of onset of symptoms
EXAMINATION

• General: Child looks ill and lethargic
  High Temp
  Rapid pulse

• Look: Limb is held still
  Swollen
  May look red

• Feel: Tender over metaphysis
  Diaphysis usually normal
  Warm
  Swollen

• Move: Can move joint few degrees
  Does not bear weight on the limb
INVESTIGATIONS

X-rays
- Normal at the beginning
- Soft tissue swelling
- Periosteal reaction (at 2 weeks)
- Sequestrum
- Involucrum
OTHER INVESTIGATIONS

- FBC
- ESR / CRP
- Blood Culture
DIFFERENTIAL DIAGNOSIS

- Septic arthritis
- Soft tissue injury
- Epiphyseal injury
- Metaphyseal fracture
TREATMENT

- Resuscitation:  - I/V Fluids
  - I/V Antibiotics (Cloxacillin),
    (Erythromycin/Fucidin)
  - Analgesics
  - Splintage
  - Often High Care / ICU

- Surgery:  - an emergency,
  - once child is stabilized

The operation - incision and drainage
COMPLICATIONS

- Mestatic infection: - Spread to other bones / joints.
  - Lung – pneumonia.
  - Heart peri-carditis.

- Septic Arthritis: - Metastatic disease.
  - Anatomy of metaphysis.
  - esp in very young.

- Chronic Osteitis

- Growth Disturbance

- Pathological fracture
CHRONIC OSTEITIS

1. Secondary to acute osteitis
2. Secondary to trauma or surgery
3. Primary chronic osteitis
   - TB
   - Syphilis
CLINICAL MANIFESTATIONS

- Pain
- Swelling
- Bone Swelling
- Episodes of discharging sinuses
- Episodes of acute flare up with signs of acute inflammation
DIAGNOSIS

- X-rays
- FBC
- ESR / CRP
- Pus Swab
TREATMENT

- Pus swab culture
- Appropriate antibiotics
- Cannot cure chronic osteitis
- Can hope to relieve symptoms
TREATMENT

- Pus swab culture
- Appropriate antibiotics
- Surgery  - Drain Abscess
             - Remove a sequestrum
             - Remove bone