

This is acute or chronic infection producing inflammation in a native or prosthetic joint.

### Epidemiology

*Incidence:* ~1:10,000. Higher (2-10%) in prosthetic joint recipients.

*RF:* Elderly, DM, RA, immunosuppressed, prosthetic joint, pre-existing jt disease, recent jt surgery, recent steroid injection, STDs and intravenous drug use, skin infection.

### Presentation

85% monoarthritis. 15% polyarticular (CT disease, overwhelming sepsis - *S. aureus*, gonococcus)  
Pain on limited active or passive movement of joint which is swollen, warm, tender.

- Knee ~50%, hip 20% (more in children), shoulder, ankle, wrist & SIJ all <10% each.

Often fevers and rigors. Bacteraemia common & may → prostration, vomiting or hypotension.

### Causative Organisms

- *S. Aureus*: 50% cases. (80% if DM or RA). More common in hips.
- Group A Strep: 40% cases
- Group B Strep: sternoclavicular jt and SIJ commonly
- Gonococcal disease: usually polyarthritis
- Pneumococcal disease & *H. influenzae*: children
- Gram -ve orgs: esp IVDA
- *Borrelia burgdorferi* (Lyme disease): Often delayed after travel to endemic area. May have erythema chronicum migrans, transient polyarthralgia, etc. Mainly large jts (knee)
- Tuberculosis.

### Investigations

*Urine:* Culture

*Blood:* FBC (WCC>10 is Sn ~50%), ESR>30 (Sn 95%), CRP>100 (Sn 77%), cult, serology (Lyme)

*Imaging:* Limited usefulness. XR or CT/MRI. Radionuclide scans. Technetium Tc<sup>99m</sup>, Ga<sup>67</sup>, and In<sup>111</sup> leukocyte scans may localise areas of inflammation.

*Special:* synovial fluid aspiration for WCC (>50,000/μL Sn 65% Sp >90%), positive Gram stain, LDH>250, culture. Also Gonococcal swabs, TB testing

### Management

IV Antibiotics:

- **Flucloxacillin** or **cephalothin** 2g (child 50mg/kg) IV q6h
- **Cefotaxime** 2g (child 50mg/kg) IV q8h or **ceftriaxone** 2g (child 50mg/kg) IV od or **gentamicin** 4-6mg/kg (child 7.5mg/kg) IV od to cover Gram neg
- If MRSA then **clindamycin** or **vancomycin** may be required depending on resistance.
- Continue usually for total 3-4wk, consult ID specialist on timing of switch to PO Abx

Orthopaedic r/v

- May need joint wash out
- Temporary splintage in position of function until infection improving, then mobilisation.
- Irreversible joint damage in 33% may need surgery.
- Replacement of infected prosthetic joint

### Prognosis

50% adults have significant chronic pain or reduced ROM. Risk factors for poor outcome: infection of shoulder or hip, age>60y, RA, ABx delay>7d, cultures still positive after 7d ABx