

Septic Arthritis

Definition of septic arthritis

- Infection of the joint space.
- Can rapidly destroy a joint over hours to days, so a high index of suspicion is required.

Presentation of septic arthritis

- Single hot, red, swollen, agonisingly painful joint
 - Often held immobile
- In older people and RA, picture sometimes less obvious, so have a low index of suspicion
- 20% of septic arthritis affects more than one joint
- May be systemically septic

Causes of septic arthritis

- There may or may not be a history of trauma to the joint
- Frequent pathogens:
 - Staph aureus
 - Streptococci
 - Neisseria gonorrhoeae
 - Suspect in young, sexually active adults, but actually not very common
 - Haemophilus (in kids, but rare due to vaccination)
 - The elderly and people with chronically inflamed joints (e.g. RA) are prone to infection with unusual organisms.
- NB. Lyme disease (*Borellia burgdorferi*) can cause an inflammatory arthritis
 - Look for the typical 6cm bullseye lesion of erythema migrans.

Investigations in septic arthritis

- Bloods
 - WBC raised unless highly immunosuppressed
 - High CRP and ESR
 - Note both can be normal, particularly in immunosuppressed
- Blood cultures often also positive
- Aspirate joint and send the fluid for URGENT microscopy and culture, including culture techniques for gonococci and anaerobes – the fluid is often frankly purulent though. Check for crystals as well.
 - Gram stain positive in only 50%
 - Synovial fluid growth positive in 90%
 - MUST be done prior to starting antibiotics
- Swabs from skin wounds and the throat, sputum and urine can all be collected for culture and might indicate the source/organism responsible.
- X-ray as a baseline investigation

Treatment of septic arthritis

- Empirical antibiotic treatment
 - Depends on local guidelines but if no risk factors for atypical organisms then use flucloxacillin 2g qds IV
 - Vancomycin IV if risk of MRSA
 - Elderly/frail/recurrent UTIs/recent abdominal surgery (risk of gram neg): 2nd or 3rd gen

cephalosporin e.g. cefuroxime

- Change antibiotics if organism later found to be resistant
- Often need prolonged antibiotic course
 - Minimum 6 weeks (usually 2/52 IV then 4/52 PO)
- Refer all infected prosthetic joints to orthopaedics
- Septic joints should be aspirated to dryness & may need arthroscopic washout
 - Prosthetic joints often need removal
- In all cases, early physio should be given once the infection is under control, to prevent joint stiffness and muscle wasting.

Prognosis in septic arthritis

- Case fatality of 11%
- Worse if complicated by osteomyelitis
- Secondary osteoarthritis can occur