Infectious Arthritis

Infectious arthritis: General aspects

- Usual presentation as Ac. Mono-arthritis but…
  - Subacute/Chr monoarthritis or oligoarhtritis in mycobacterial/fungal infections
  - Waxing n waning course in Syphilis, Lyme ds, reactive arhtritis, Chlamydeal urethritis
  - Ac. Polyarticular arthritis during IE, RF, Ac. Hep B
- MC cause: Bacterial (Staph aureus n N. gonorrhoea)

Infectious arhtritis: General aspects

- Diagnosis:

Synovial aspirate→

- TLC < 200 ; MNCs…..Normal
- TLC = 10,000-30,000 ; PMNs….T.B., Fungal
- TLC = 30,000-50,000 ; PMNs……RA, Crystal arthropathy
- TLC > 1,00,0000 ; PMNs……Bacterial

Infectious arhtritis: General aspects

- Definitive diagnosis:

Demonstration of caustive organism in stained smears or cultures OR by PCR-based assays n immunologic techniques

Acute Bacterial Arthritis

- Mode:

1. Blood stream (MC)
2. Contiguous spread from bone or soft-tissue
3. Direct inoculation (trauma/surgery)

- Causative agents:

1. Gonococcal (MC)
2. Non-Gonococcal…Staph aureus, Gm-Neg Bacilli, Strep., Pneumococci

Acute Bacterial Arthritis

- Predisposing conditions:

1. RA (deformed n inflamed joints, Steroid therapy, infected rheumatoid nodules)
2. DM
3. Steroid therapy/Anticytokines(Anti-TNFœ)
4. HIV
5. Alcoholism

Acute Bacterial Arthritis

Clinical Presentation:

- Acute Monoarhtritis
  - Pain, effusion, muscle spasm, reduced range of motion
  - Knee > Hip > Shoulder > Wrist n Elbow
  - Spine, SI joint n Sternoclavicular joint in IVDU
  - Always look for extra-articular focus (boils, pneumonia)

Acute Bacterial Arthritis

- Differential diagnoses: Ac. Monoarthritis

1. Crystal-induced arthritis
2. Osteoarthritis
3. Ischemic necrosis
4. Fracture
5. Hemarthrosis

Acute Bacterial Arthritis

- Differential diagnose: Chronic Monoarthritis

1. Mycobacterial infection
2. Fungal infection
3. Syphilis
4. Brucellosis

Acute Bacterial Arthritis

- Differential diagnose: Ac. Polyarthritis

1. N. gonorrhoea n Meningitides
2. Reactive arthritis
3. Arthropod-borne viral fever
4. SABE, Poncet's ds
5. CTDs/ Vasculitides

Acute Bacterial Arthritis

- Lab Investigations:

1. X-rays→ soft tissue swelling, î joint space, narrowed joint space n bony erosions in advanced stages
2. USG or CT/MRI→ for deep seated joints such as hip, shoulder, SI
3. Blood C/S
4. CBC→ î TLC with PMNs n shift to left

Acute Bacterial Arthritis

- Lab Investigations:

5. Synovial aspirate→
   - Gross: Sero-sanguinous, Turbid
   - Biochem: ↑ Protein n LDH & low sugar
   - Culture: + in up to 30-50% cases

Acute Bacterial Arthritis

- Treatment:

Systemic A/B & Drainage of involved joint……..
To prevent destruction of cartilage, post-infectious degenerative arthritis, joint instability n deformity

Acute Bacterial Arthritis

- Choice of appropriate A/B→
  - No identifiable organism: Ceftriaxone
  - Gm + cocci on smear: Oxacillin/Nafcillin
  - MRSA suspected: Vancomycin
  - Pseudomonas/IVDU: Ceftriaxone +AGL
- Duration of A/B therapy→ 2-4 weeks
  - Pneumo/Streptococcus: 2 weeks
  - Gm-Neg Bacilli: 3 weeks
  - Staph/Pseudomonas: 4 weeks

Acute Bacterial Arthritis

- Surgical interventions/Joint drainage:
  - Synovial aspirate
  - Arthroscopic lavage
  - Arthrotomy (esp hip joint)

- Avoid active weight bearing during initial part but passive movements to maintain full range of motion n mobility

Gonococal arthritis

- MC of Ac. Baterial/Septic Monoarthritis
  - Usually follows DGI
  - Gm stain rarely + but synovial C/S + in 40%

- Can also cause ac. Polyarthritis (DGI)
  - Asso hemorrhagic pustules/papules over dorsum of extremities
  - Gm stain n C/S from skin lesions rarely +

Gonococal arthritis

- Bed-side inoculation to transport media under 5% CO_2
- Culture media- Thayer-Martin agar
- Treatment:

Ceftriaxone till resolution of local n systemic signs f/b oral medicines for next 1 week

also treat for Chlamydia infection unless specifically ruled out

Spirochetal arthritis

- Lyme disease:
  - CA: Borrelia burgdorferi
  - Vector: Ixodes ricinus complex (ticks)
  - Waxing – waning pattern of migratory arthritis over months; asso cutaneous, CVS n neurologic manifestations
  - Diagnosis: Serology (Ig G Ab)…+ in 90%
    DNA-based PCR…….+ in 85%
  - Treatment: Doxy 100 mg BD X 1 mth
    Synovectomy if no response by 2 mths

Spirochetal arthritis

- Syphilitic arthritis: Congenital/Sec/Tertiary
  - Early congenital syphilis: Parrot's paralysis

Painful periarticular swelling n osteochondritis
Leading to immobilisation of involved limb

  - Late congenital syphilis: Clutton's joints

Painless Chronic synovitis with effusion of
Large joints

irochetal arthritis

econdary syphilis:

symm. Arthritis of Knees and Ankles along

n Sacroilitis

ertiary syphilis/Tabes dorsalis:

less destructive arthropathy (Charcot's joints)

rcobacterial arthritis

uberculous arthritis:
onoarticular Chr. Granulomatous Arthritis
nvolves weight-bearing joints
ogression over moths to years
ystemic symptoms only in < 50%

ncet's disease

cobacterial arthritis

ynovial aspirate:

LC = 20,000 ; PMN type

FB stain = 30%

FB culture = 80%

ynovial biopsy culture = 90%

-ray → reduced joint space

→ periarticular osteopenia

→ peripheral joint erosions (synovial

cobacterial arthritis

typical mycobacteria:

vium/Kansasii/Marinum etc.
nall, peripheral joints (digits) involved
endinitis, bursitis very common
reatment as per antimicrobial susceptibility
sts

ngal arthritis

nusual cause of Chr. Monoarticular
ranulomatous arthritis

sually a predisposing immuno-compromised
ate e.g. DM, HIV, Steroids

occidioides, Blastomyces, Histoplasma

ynovial fluid ….TLC = 10,000-40,000 ; PMNs
wet mount, staining n culture

ral arthritis

edom. involv of hands, wrists n elbows

rsists for 2-4 weeks; occasionally chronic
thralgias

ubella, Mumps, Arthropod-borne viral infxn,
IV, Ac. Hep B, Parvo-virus B19

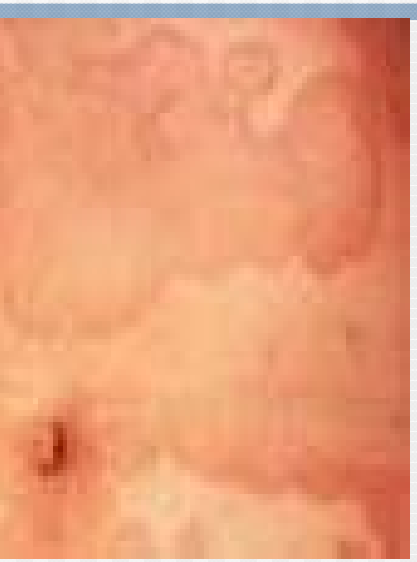
reatment: Symptomatic (NSIADs)

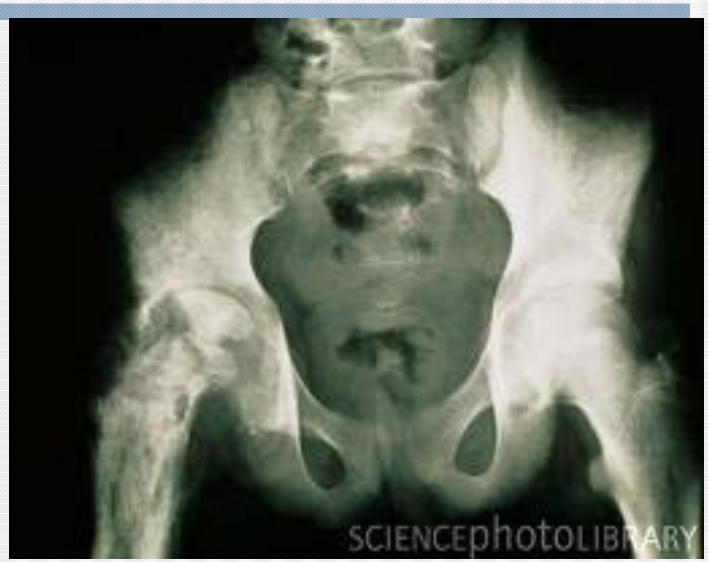
st-infectious/Reactive arthritis

- onjunctivitis + Urethritis + Arthritis
- assical triad only in minority of patients
- llowing Non-goncoccal infections e.g. higella, Yersinia, Compylobacter etc.
- esents as painful oligo-arthritis of Lower mbs (Knee, Ankles n Feet)
- reatment: Symptomatic (NSAIDs)
  - may take up to 6 mths to resolve

osthetic joint infection

- nfection acquired intra-operatively or mediate post-operative period
- raph aureus, Strep pyogenes: immediate st-operative acute arthritis
- phtheroids, CNS (Coag Neg Staph): dolent arthritis…mths to years later
- ynovial fluid with raised TLC (PMNs type) ghly suggestive (can not be inflammatory thritis)
- reatment: IV A/B X 4-6 wks f/b joint

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