ACUTE MONOARTICULAR JOINT PAIN

Complete H&P

Clinical picture suggestive of Septic Arthritis?

Prosthetic joint or overlying cellulitis or procedural difficulty?

Perform Arthrocentesis Consider Serum Labs

Grossly Purulent Fluid: Septic Arthritis until proven otherwise

Synovial WBC>100K

SWBC>50K or Positive Gram Stain or Continued Clinical Suspicion

SWBC<50K Gram Stain Negative Low Risk Features Likely Alternative Dx

Dry Tap

IV Antibiotics Coverage against Staph and Strep spp

Ortho Consult

Serum Labs if not yet performed

Admit

Manage Alternative Diagnosis Appropriately

Clinical Features: Limited active/passive ROM Hot, red, swollen & tender High Risk History of Septic Arthritis

High Risk Features Prosthetic joint +/- skin infection Recent joint surgery Age>80yo Diabetes Rheumatoid Arthritis HIV EIOH IVDU

Serum Labs: CBC ESR CRP Coags, BMP, BCx (Using clinical judgment)

Arthrocentesis Labs Cell Count & Diff Gram Stain & Culture Crystals Consider holding for additional studies Lavender & Red Top Tubes

Consider: Ortho Consult Serum Labs X-Ray’s

Yes

Disposition

1. Discharge - if close follow-up and low risk features
2. Admit - if high risk features or clinical picture concerning for septic arthritis
3. CDU Observation - consider if serial assessments needed, lack of follow up, or questionable clinical picture
Bacteria and Antibiotics

1. **Gram-Positive Cocci** - IV Vancomycin 15-20mg/kg q8-12h

2. **Gram-Negative Bacilli** - IV Zosyn 4.5mg q6-8h or IV Meropenem 1g q8h

3. **Negative Gram Stain** - empiric coverage against Gram Positives and Negatives -- Vancomycin and Ceftriaxone
   - MRSA Risk - IVDU, h/o MRSA, nursing home, ulcers
   - IVDU - MRSA and Pseudomonas
   - Elderly with UTI and/or ulcers - Gram Negative Bacilli, MRSA
   - Sexually Active - consider N. gonorrhea

**Patients with underlying joint pathology are at greatest risk for septic arthritis.**

- Nongonococcal septic arthritis destroys cartilage within days.
- Staph and Strep spp are most likely isolates
- 50% of cases involve the knee.
- Gram Stain is only 29-65% sensitive.
- ~20% of cases have negative synovial cultures.
- Synovial WBC >50k has LR+ ranging from 4.0-7.7 for native joint septic arthritis

**SELECTED REFERENCES**

9. Margaretten et al. Does this adult patient have septic arthritis? JAMA (2007); 297(13):1478-1488