ER-Infection Combined Meeting

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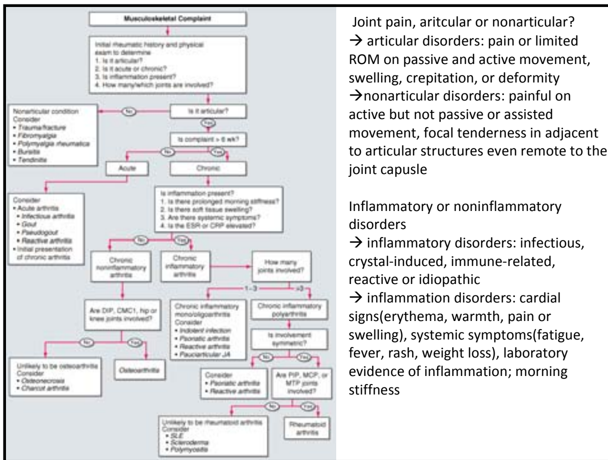
Discussion

- Differential diagnosis of arthritis with fever
- Analysis of synovial fluid
- Reactive arthritis
- Approach to patients presenting arthritis with fever



Joint pain, aritcular or nonarticular?
→ articular disorders: pain or limited ROM on passive and active movement, swelling, crepitation, or deformity
→nonarticular disorders: painful on active but not passive or assisted movement, focal tenderness in adjacent to articular structures even remote to the joint capsule

Inflammatory or noninflammatory disorders
→ inflammatory disorders: infectious, crystal-induced, immune-related, reactive or idiopathic
→ inflammation disorders: cardial signs(erythema, warmth, pain or swelling), systemic symptoms(fatigue, fever, rash, weight loss), laboratory evidence of inflammation; morning stiffness

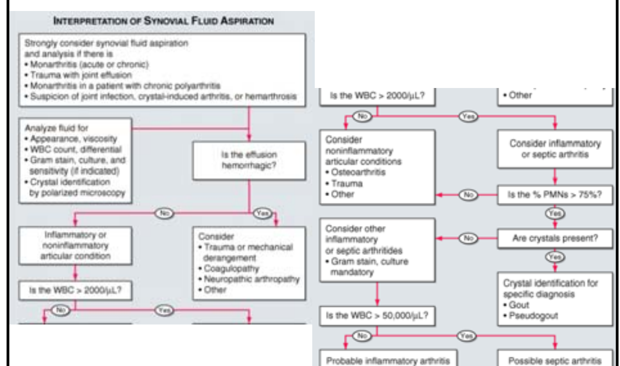
Differential diagnosis of arthritis with fever

- arthritis caused by infectious agents:
  - direct infection of joints: nongonococcal, gonococcal, lyme arthritis , tuberculous arthritis , fugal arthritis
  - indirect arthritis:
    - acute rheumatic fever
    - reactive arthritis
    - virus: hepatitis B, rubella, parvovirus B19
- crystal arthritides:
  - gout
  - pseudogout

Differential diagnosis of arthritis with fever

- connective tissue disease:
  - systemic lupus erythematosus
  - mixed connective tissue disease
  - vasculitides
  - adult onset Still's disease
  - rheumatoid arthritis
  - polymyalgia rheumatica
- sarcoidosis
- arthritis associated with inflammatory bowel disease
- haematological malignancy
- Whipple's disease
- familial Mediterranean fever

Analysis of synovial fluid



Analysis of synovial fluid

Table 3. Examination Of Synovial Fluid.

	Normal	Noninflammatory	Inflammatory	Septic
Clarity	Transparent	Transparent	Cloudy	Cloudy
Color	Clear	Yellow	Yellow	Yellow
WBC/mL	<200	<200-2000	200-50,000	>50,000
PMNs (%)	<25%	<25%	>50%	>50%
Culture	Negative	Negative	Negative	>50% positive
Crystals	None	None	Multiple or none	None
Associated conditions	—	Osteoarthritis, trauma	Gout, pseudogout, spondyloarthropathies, rheumatoid arthritis, Lyme disease, systemic lupus erythematosus	Nongonococcal or gonococcal septic arthritis

Used with permission from: Tintinalli JE, Kelen GD, Stapczynski JS, eds. *Acute Disorders of the Joints and Bursae.* 5th ed. Table 278-1.

Reactive Arthritis

- Historic background
  - Reiter's syndrome : triad of arthritis, urethritis, and conjunctivitis
- Definition
  - Acute nonpurulent arthritis complicating an infection elsewhere in the body, esp. enteric or urogenital infections

Reactive Arthritis

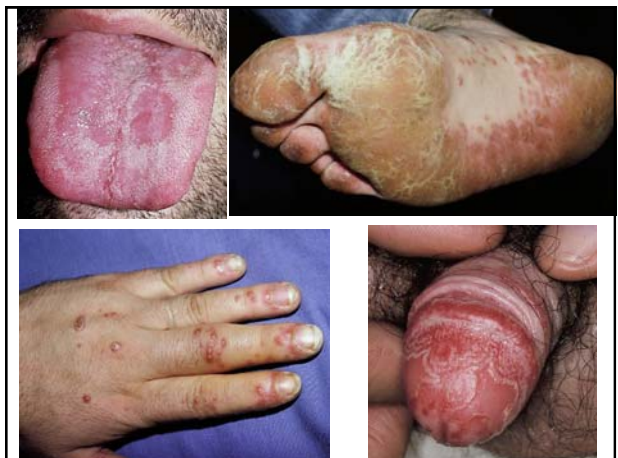
- Risk factors and Pathogenesis
  - Bacterial antigens trigger immunologic reaction
  - Triggering organism: Chlamydia, Salmonella, Shigella, Yersinia,Campylobacter
  - Genetically susceptible patients, eg. HLA B-27(+)
  - Incidence M:F>5:1 after sexually transmitted disease but M:F=1:1 after bacterial diarrhea
  - Most common age range: 18-40 years

Reactive Arthritis

- Clinical features
  - A spectrum ranges from an isolated, transient monarthritis to severe multisystem disease
  - History usually elicit evidence of an antecedent infection 1–4 weeks before onset of symptoms
  - Constitutional symptoms : fatigue, malaise, fever, and weight loss
  - musculoskeletal symptoms : usually acute in onset; joints of lower extremities most common sites of involvement; dactylitis(sausage digit); enthesopathy

Reactive Arthritis

- Clinical features
  - Reproductive and urinary systems: urethritis, prostatitis, cervicitis or salpingitis
  - Ocular disease: ranging from transient, asymptomatic conjunctivitis to an aggressive anterior uveitis
  - Mucocutaneous lesions : oral ulcers, skin rash, keratoderma blenorrhagica, circinate balanitis, nail change
  - Acute episodes typically resolve within 4-6 months; Approximately 10-50% of affected patients have recurrent or progressive disease



Reactive Arthritis

- Lab findings
  - Elevated ESR and CRP; mild anemia
  - Frequently associated with HLA-B27(+)
  - Serologic evidence of recent infection may be present
  - Radiologic changes: absent or juxtaarticular osteoporosis in early/mild disease; marginal erosions and loss of joint space in long-standing persistent disease

Reactive Arthritis

- Diagnosis
  - Clinical diagnosis without definitively diagnostic laboratory test or radiographic finding
  - Questioning possible triggering events such as an episode of diarrhea or dysuria
  - Focusing on the distribution of joint and tendon involvement and possible sites of extraauricular involvement
  - Synovial fluid analysis to exclude septic or crystal-induced arthritis

Reactive Arthritis

- Treatment
  - NSAID
  - Antibiotics? no evidence of benefit after onset of arthritis
  - Topical steroid, intralesional steroid injection
  - DMARD

Approach to patients presenting arthritis with fever

- Age and gender
- Onset, evolution, and duration
- Extent of articular involvement
- Underlying disease and associated symptoms
- Arthrocentesis if possible; send for gram stain and cultures

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- Thanks for your attentions!