

CASE 1

A 63 year old woman complains of pain in her fingers and knees. She has had progressive deformity of her fingers that is more of an annoyance than a disability. The pain in her knees is becoming more of a concern as it is beginning to limit activities she enjoys, like hiking on the weekends. Her right knee has recently become more swollen.





Differential diagnosis

- Noninflammatory arthritis
 - vs
- Inflammatory arthritis
 - Rheumatoid arthritis
 - Psoriatic arthritis
 - Reactive arthritis
 - SLE

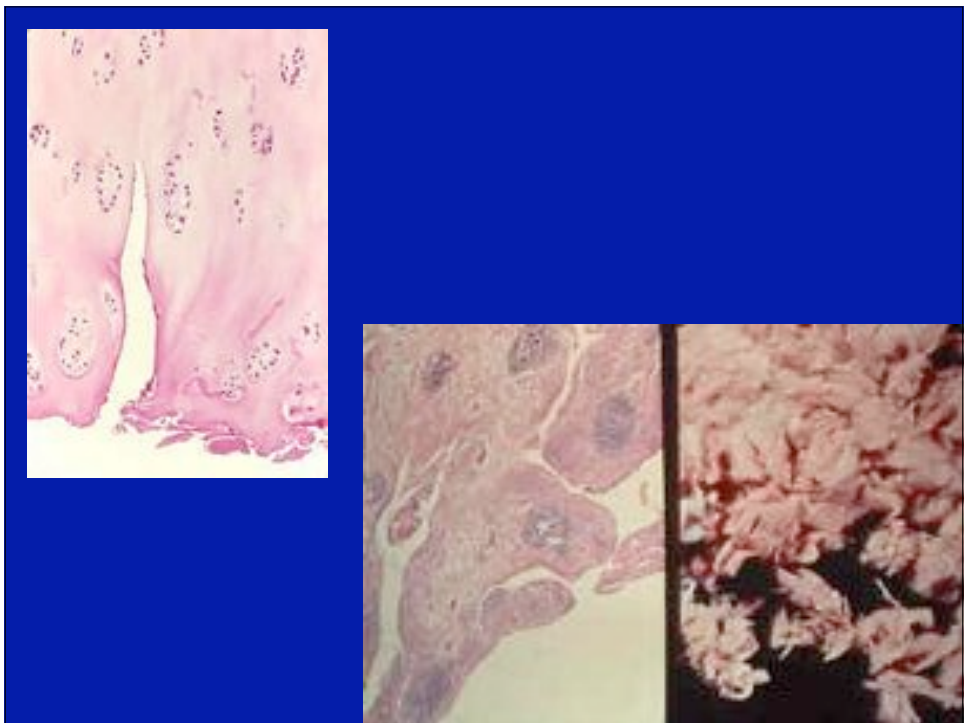
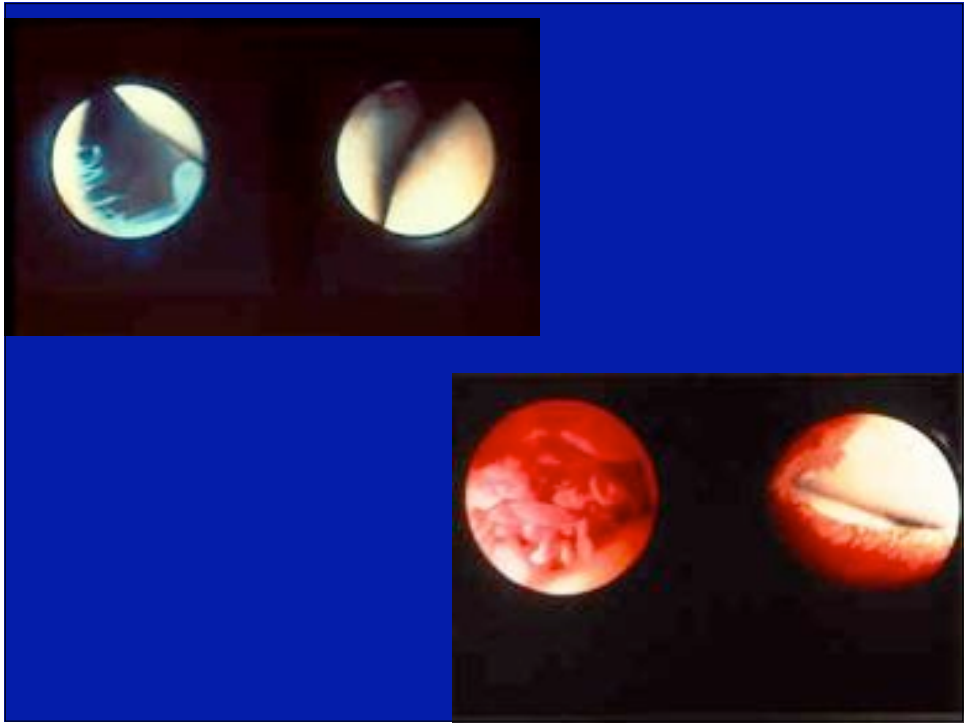
Characteristics of Osteoarthritis

- May be symmetrical or asymmetrical
- Trauma, mechanical load may contribute
- Frequently involves DIP joints
- No morning stiffness
- No extraarticular features

Characteristics of RA

- Chronic, symmetrical, small joints
- Spares DIPs
- Morning stiffness
- Extraarticular manifestations: fatigue, weight loss, fever, anemia, nodules, Sjogren's, vasculitis





Osteoarthritis: *Epidemiology*

- Radiographic OA >80% of population over 50
- Women=Men Overall
- More common Women <45
- More common Men >45

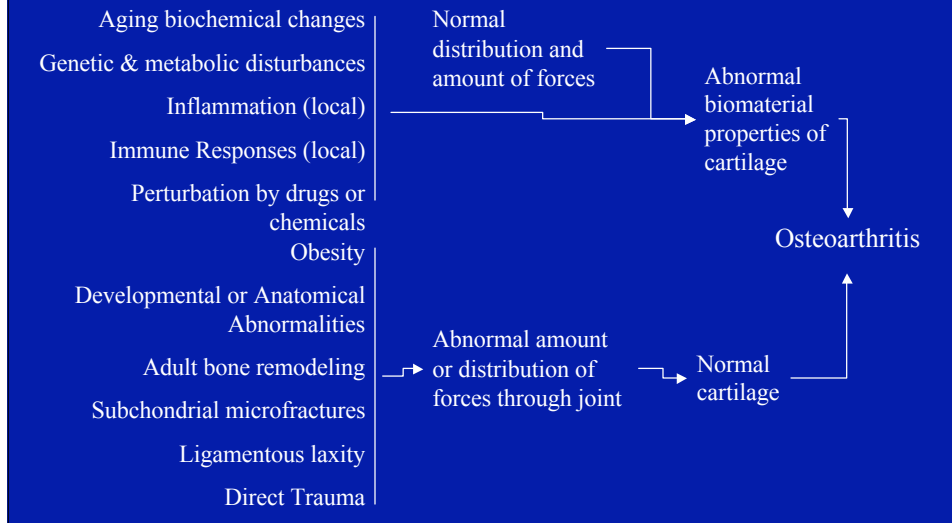
Predominant sites in Osteoarthritis

- Finger-distal interphalangeal joints (Heberden's nodes)
Finger-proximal interphalangeal joints (Bouchard's nodes)
First carpometacarpal and first metatarsophalangeal (bunion) joints
- Knees, hips, cervical and lumbosacral spine

Minor Sites:

- Shoulder (acromioclavicular, sternoclavicular)
- Elbow
- Metacarpophalangeal joints, rarely

Hypothetical Scheme Relating Possible Causes of Osteoarthritis



Osteoarthritis Treatment

- Acetaminophen
- NSAIDS
- Exercise
- Physical Therapy
- Surgery

CASE 2

Early Sunday AM, a 50 year old salesman presents to the ER unable to walk because of exquisite left foot and ankle pain. He has had several previous episodes over the last five years that only involved the toe. He drinks alcohol heavily at times, including the previous night.



Acute Monoarticular Arthritis

- Infection
- Crystals
- Trauma
- Neoplasm
- Polyarticular Syndrome

Synovial Fluid

- Cloudy, yellow
- WBC=30,000, 90% polys
- Glucose=100

Synovial Effusions: *Classification*

Type of Fluid	Special Features	Leukocytes/mm ₃
Normal	Clear, Colorless Viscous	<200 (<25% PMNs)
Noninflammatory	Clear, Yellow Viscous	200-2,000 (<25% PMNs)
Inflammatory	Cloudy, Yellow, Watery Glucose May be Low	2,000-100,000 (>50% PMNs)
Septic	Purulent Glucose Very Low	>80,000 (>75% PMNs)



Acute Gout

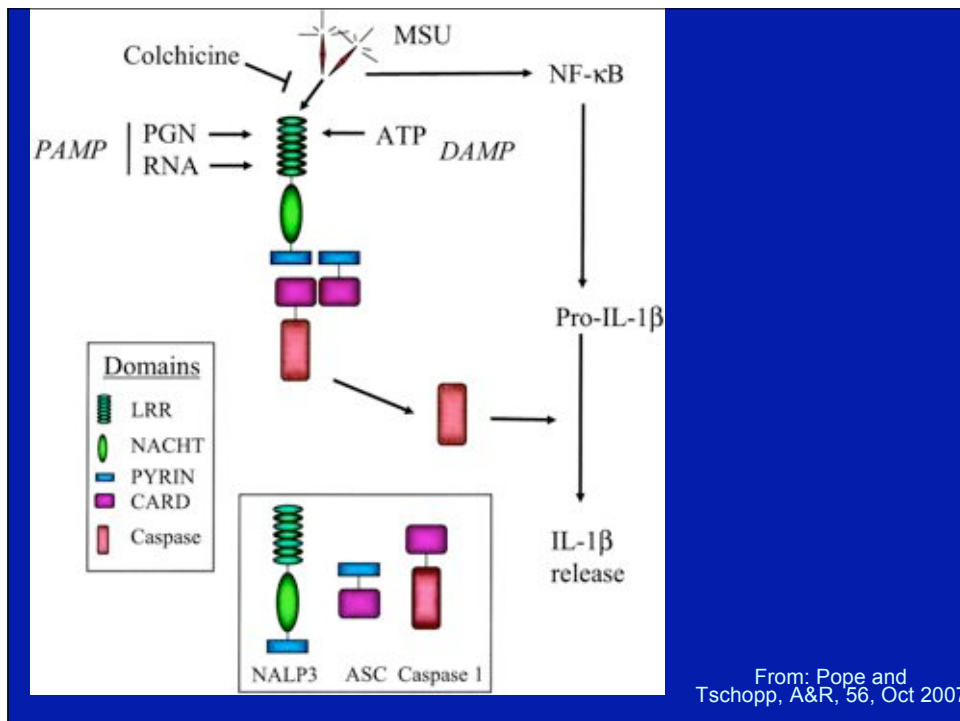
- Abrupt onset, severe pain, often at night
- Subsides completely over 3-7 days
- 75% of first onset in first MTP joint
- Urate crystals in synovial fluid
- May have hyperuricemia
- Monoarticular at first, attacks become polyarticular over time

Natural History of Gout

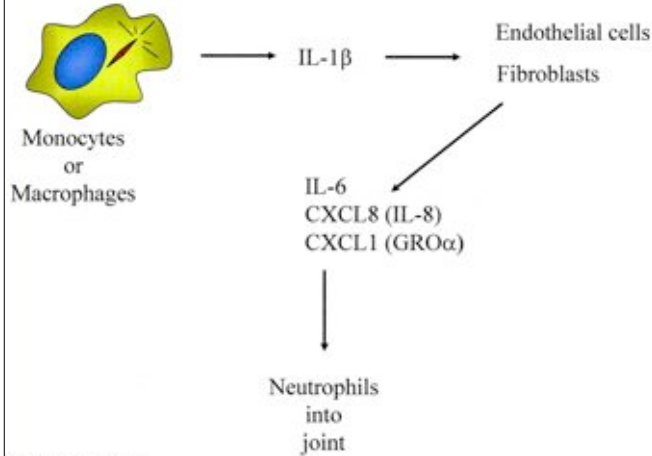
- Asymptomatic hyperuricemia
- Acute Gouty Arthritis
- Intercritical Gout
- Chronic Tophaceous Gout

Purine degradation

- Inosine
- Hypoxanthine
- Xanthine
- Uric acid



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Figure 3. The role of interleukin-1 β (IL-1 β) in the pathogenesis of gout. Macrophages or monocytes within the joint release IL-1 β , which induces other cells within the joint, such as endothelial cells and fibroblasts, to produce cytokines and chemotactic factors, which result in the recruitment of neutrophils to the joint. GRO α = growth-related oncogene α .

Associations with Hyperuricemia

- Age & Sex: Rises in men at puberty; women at menopause
- Weight
- Creatinine
- Blood Pressure
- ETOH, and Diet

Hyperuricemia

Overproduction (10%)

- Ethanol
- Deficiency of HGPRT or G6PD
- Superactive PRPP Synthetase
- Myeloproliferative Disorders
- Psoriasis

Hyperuricemia (cont.)

Underproduction (90%)

- Dehydration, Starvation, Ketosis
- Renal Abnormality
- Drugs: Diuretics , Low Dose Aspirin
- Toxins, Ethanol, Lead
- Hypothyroidism

Treatment of Acute Gout

- NSAIDS
- Colchicine
- ACTH
- Corticosteroids, Systemic or Local

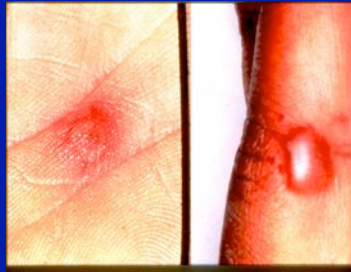
Prophylaxis of Acute Gout

- Colchicine
- Allopurinol
- Uricosurics

CASE 3

A 22-year-old man develops migratory tenosynovitis involving his wrist and ankle. Over the course of several days, his symptoms primarily involve his left ankle and Achilles tendon. He also complains of dysuria and has a penile discharge.





Appropriate Initial Treatment Would Be:

- NSAIDS
- Corticosteroids
- Oral Doxycycline
- I.V. Ceftriaxone
- Sulfasalazine
- Methotrexate

The most likely diagnosis is:

- Reactive arthritis
- SLE
- Disseminated gonorrhea
- Psoriatic arthritis
- Inflammatory bowel disease