Gout artritis

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SPECTRUM OF GOUT

- Hyperuricemia
- Acute gouty arthritis
- Tophaceous deposition of urate crystals
- Urolithiasis
- Interstitial deposition of urate crystals in renal parenchyma
- Uric acid nephropathy

Gout

One Chronic Disease, Best Described by 4 Stages

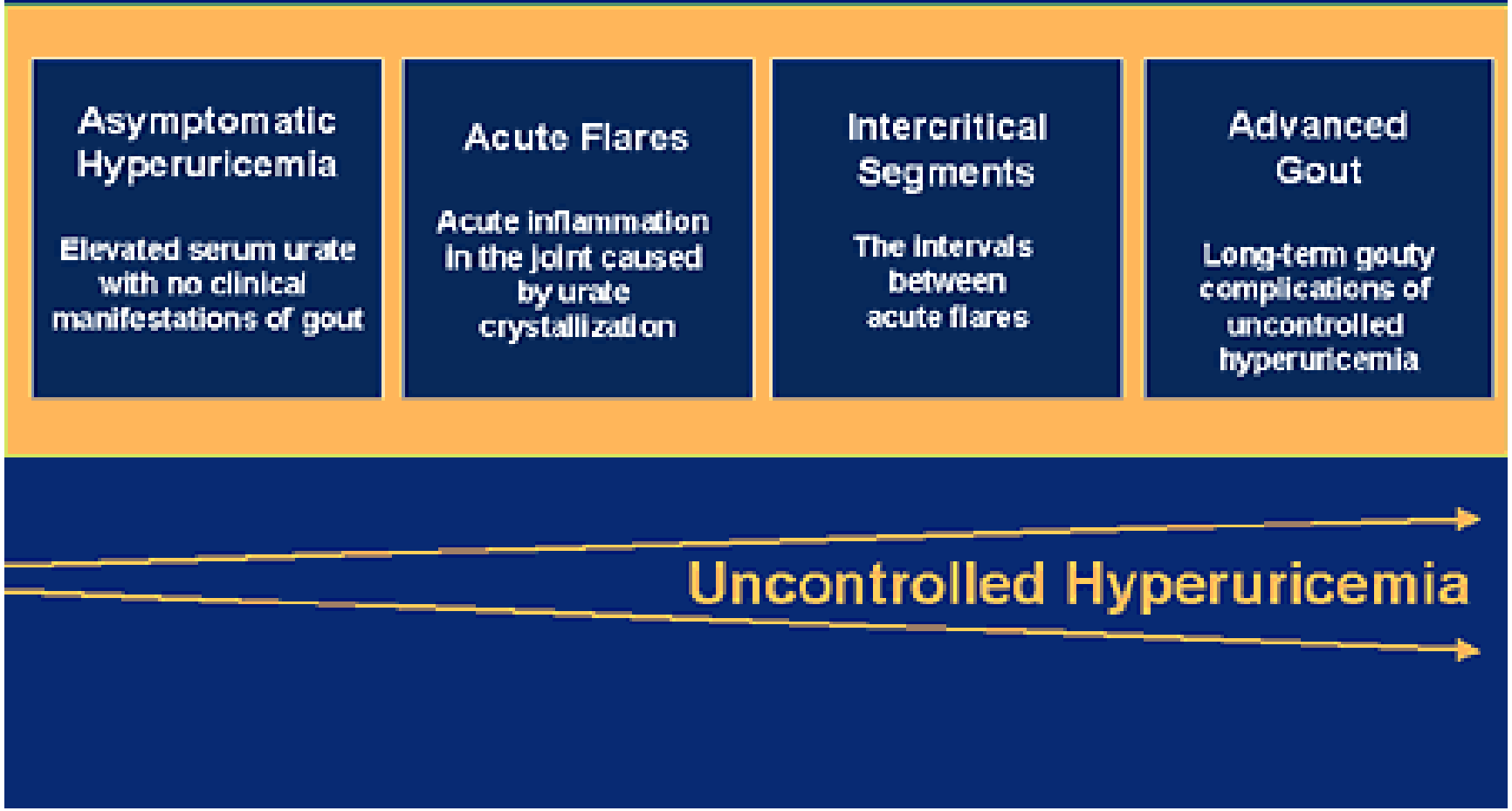


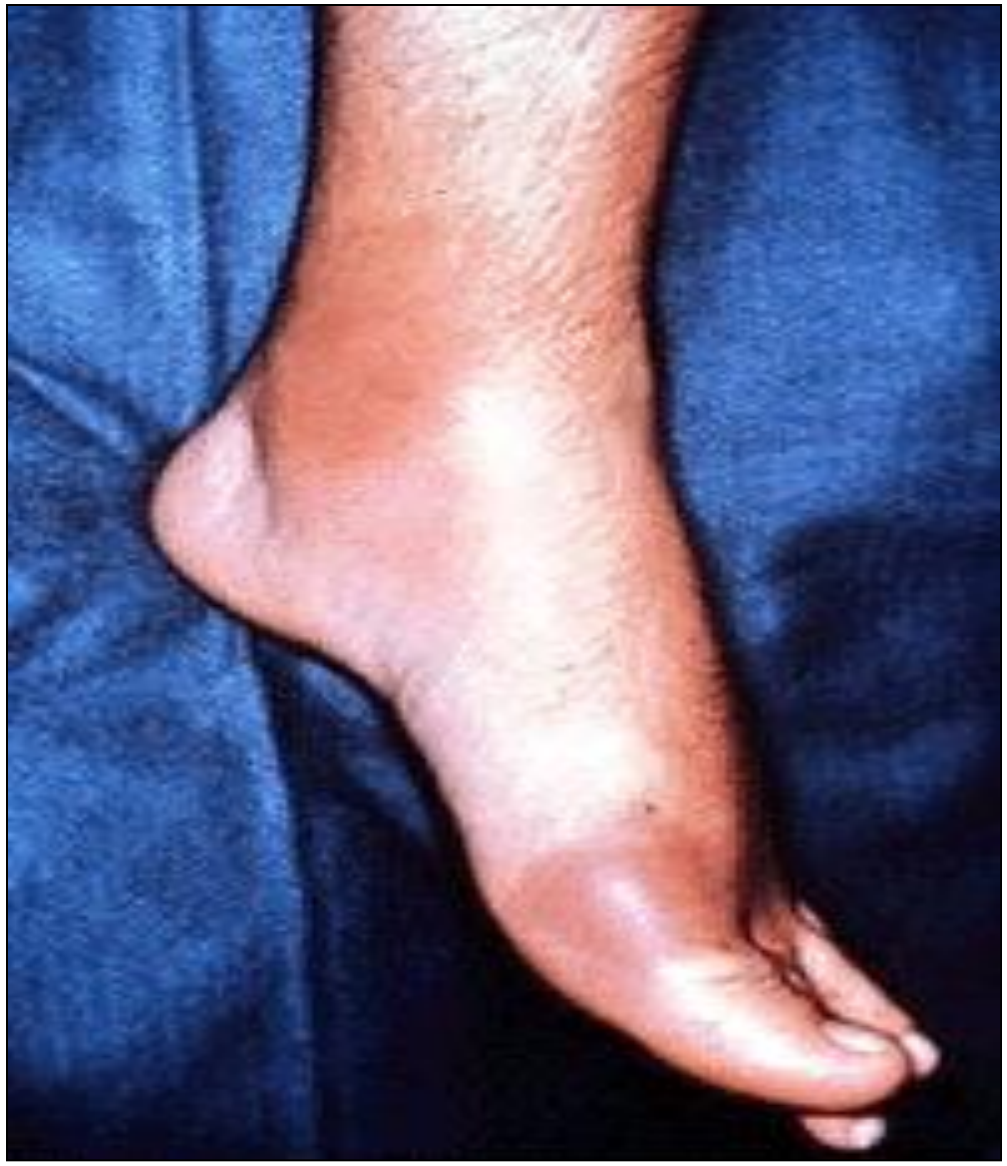
Table 1 – 1977 ACR criteria for the classification of acute gouty arthritis

A. Presence of MSU crystals in joint fluid, and/or
B. Presence of a tophus proven to contain MSU crystals, and/or
C. Presence of 6 of the following 12 clinical, laboratory, and radiographic phenomena:
   a. More than 1 attack of acute arthritis
   b. Development of maximal inflammation within 1 day
   c. Attack of monarticular arthritis
   d. Observation of joint erythema
   e. Pain or swelling in the first MTP joint
   f. Unilateral attack involving the first MTP joint (podagra)
   g. Unilateral attack involving tarsal joint
   h. Suspected tophus
   i. Hyperuricemia
   j. Asymmetrical swelling within a joint on x-ray films
   k. Subcortical cyst without erosions on x-ray films
   l. Negative culture of joint fluid for microorganisms during attack of joint inflammation

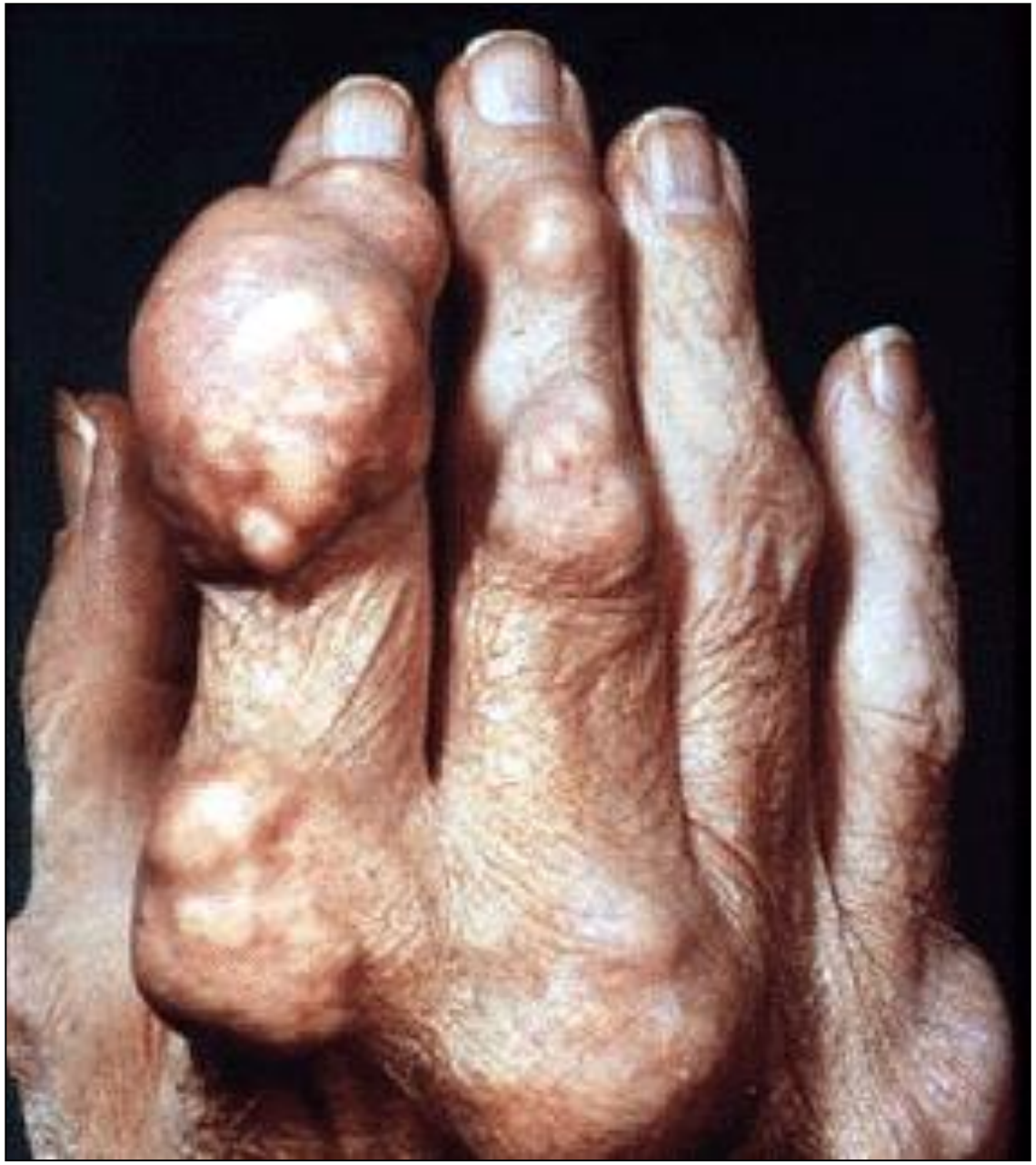
ACR, American College of Rheumatology; MSU, monosodium urate; MTP, metatarsophalangeal.

DIFFERENTIAL DIAGNOSIS FOR MONOARTHRITIS

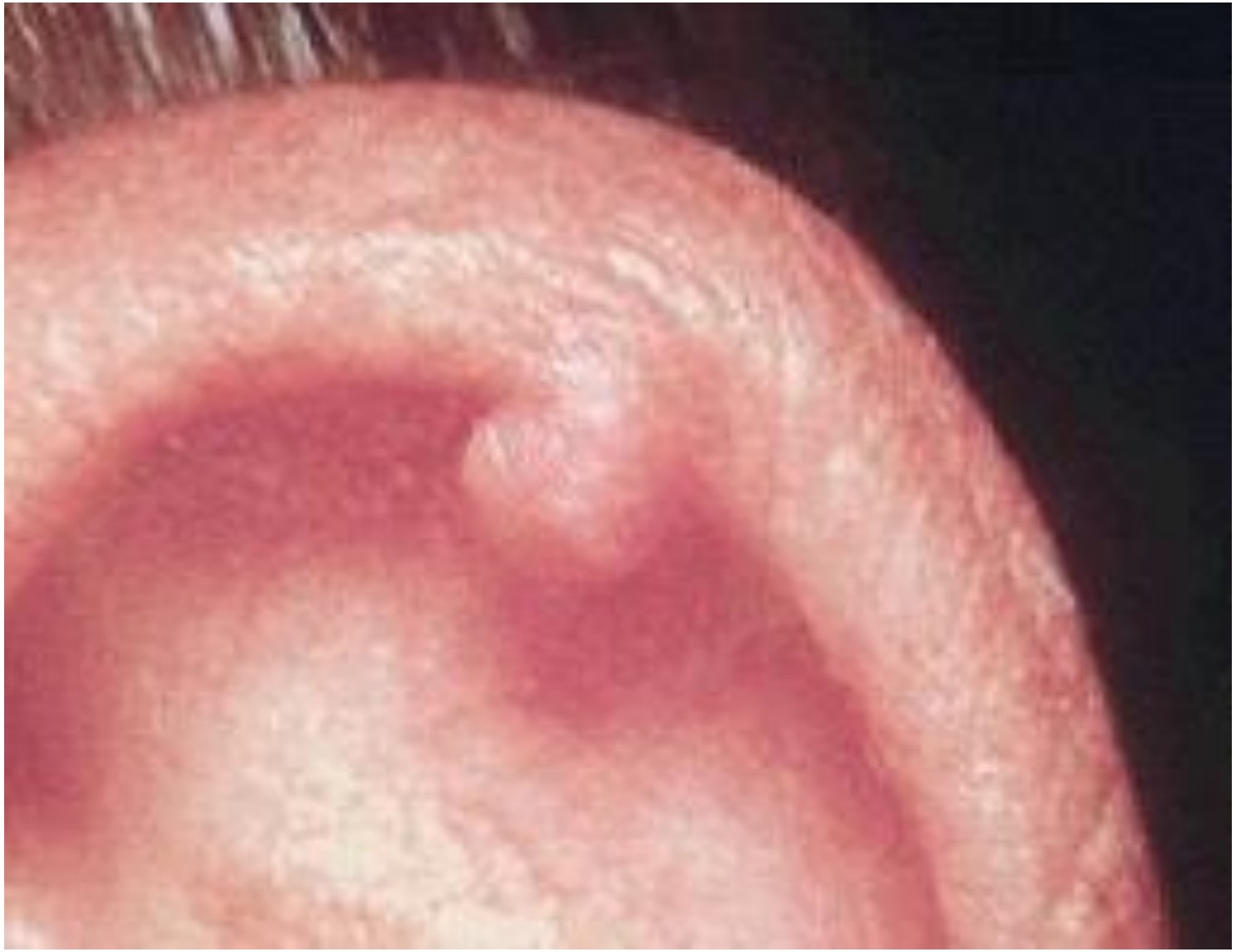
- Gout
- Pseudogout
- Septic arthritis
- Reactive arthritis
- Trauma
- Beginning polyarthritis



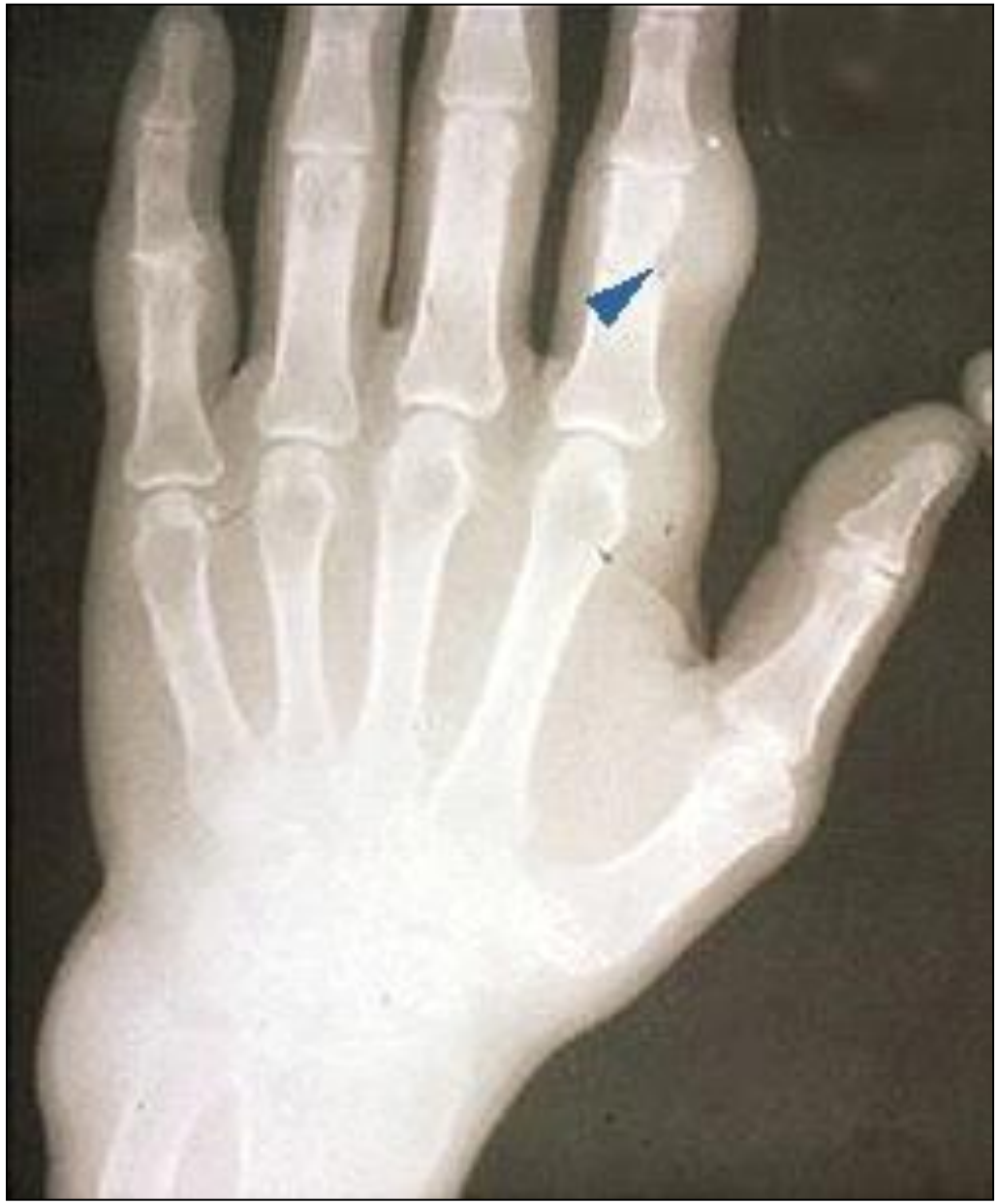
Acute attack of gout at the ankle and 1st MTP joints



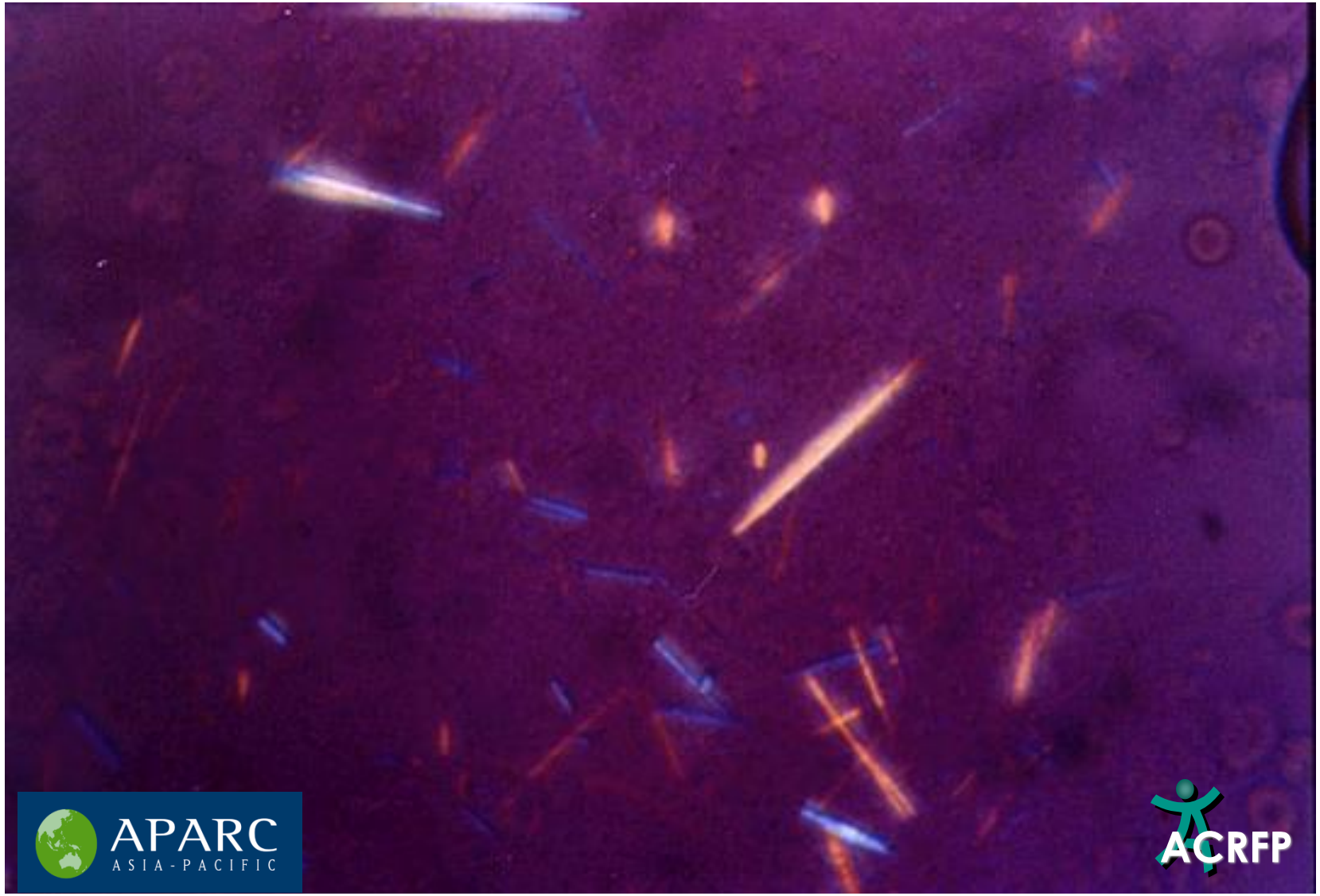
Large tophaceous deposits surrounding joints



Tophi at helix of ear

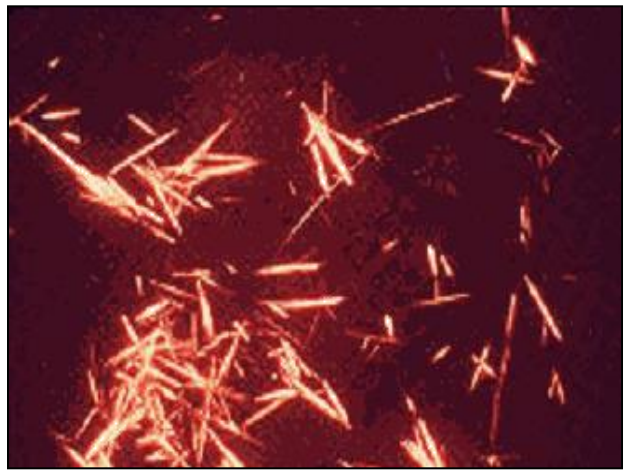


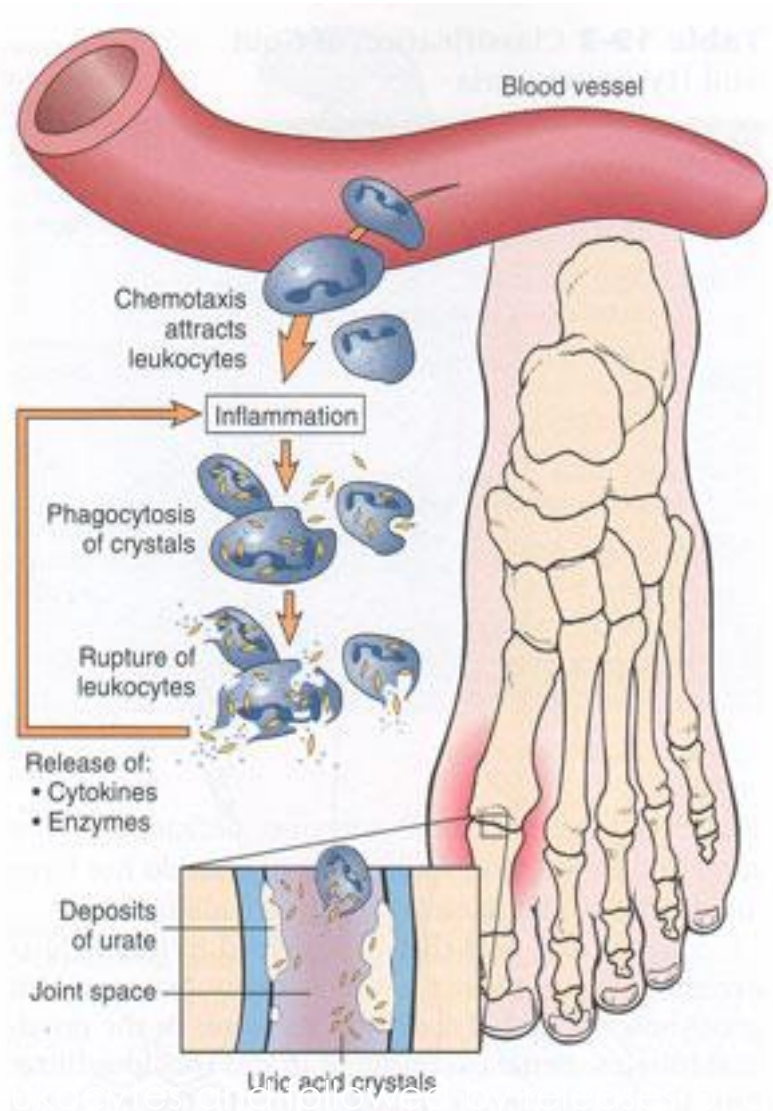
X-ray showing soft tissue swelling and erosion of 2nd PIP


APARC
ASIA-PACIFIC
ACRFP

Etiology of hyperuricaemia

Category	Possible Cause
Decreased renal clearance (90% of patients)	• Intrinsic kidney disease • Heart disease causing decreased blood flow to the kidney • Drugs (loop diuretics, low dose aspirin, cyclosporine) • Age related decrease in glomerular filtration rate • Genetic predisposition
Increased uric acid synthesis	• Dietary indiscretions • Genetic predisposition • Increased tissue turnover—tumors, lymphoproliferative disorders • Stress induced increased turnover of ATP • Alcohol induced turnover of ATP




Blood vessel
Chemotaxis attracts leukocytes
Inflammation
Phagocytosis of crystals
Rupture of leukocytes
Release of:
• Cytokines
• Enzymes
Deposits of urate
Joint space
Uric acid crystals

SOME ASSOCIATED FACTORS

- Alcohol
- Dyslipidemia
- Hypertension
- Urolithiasis
- Drugs e.g. pyrazinamide, low dose ASA
- Renal disease
- Myeloproliferative disorder
- Strong family history

Treatment of acute gouty attack

- **Colchicine** : reduces pain, swelling, and inflammation; pain subsides within 12 hrs and relief occurs after 48 hrs
- **NSAID or COX-2 inhibitor**
- **Glucocorticoid** (Prednisone 30-60 mg/day for 10-14 days)
- **Allopurinol** or **Probenecid** : decreases the serum uric acid level given after the acute attack resolves

TREATMENT OF GOUT

- Treat acute attack: cold application, NSAIDs, colchicine, (arthrocentesis)
- Lifestyle modification
- Treat concomitant conditions
- Remove precipitating factors e.g. drugs
- Maintain normouricemia
- Prophylaxis to prevent acut

Allopurinol

- Xanthine oxidase inhibitor
- Prevents production of uric acid
- Useful in both patients with increased synthesis and decreased clearance of uric acid
- Dose 100-300 mg/day
- Rarely associated with bone marrow suppression, hepatotoxicity, and hypersensitivity reactions

SEPTIC ARTHRITIS

Epidemiologi

- Prevalensi: 30-70 kasus/100.000 orang pada populasi umum
- Banyak pada laki-laki, berkaitan dengan aktivitas yang menyebabkan trauma minor pada sendi secara repetitif.
- Paling banyak: lansia atau anak-anak.
- Penyebab: bakteri gram positif (75 %-80 %) dan gram negatif (15%- 20%).

Etiologi

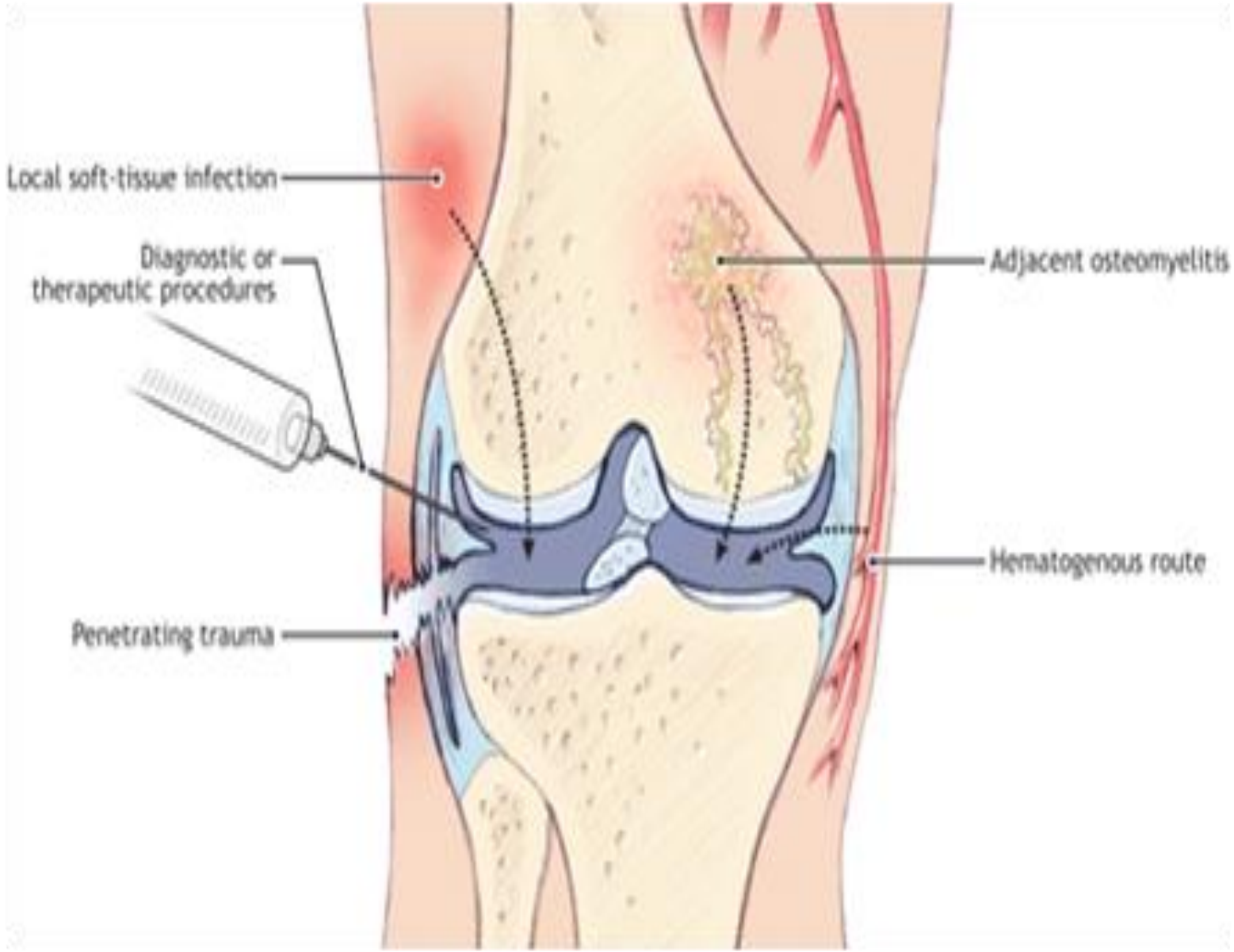
- *Staphylococcus aureus* (40-70% of all cases)
- *Streptococcus* group A
- Other group *Streptococcus*
- *Haemophilus influenzae*
- *Salmonella*
- *Mycobacteria*

Faktor risiko

- Keadaan patologis pada sendi (artritis reumatoid, osteoartritis)
- Penggunaan sendi prostetik
- Status sosioekonomi yang rendah
- Penggunaan obat-obatan dengan jarum suntik
- Mengonsumsi alkohol
- Diabetes Mellitus
- Injeksi atau instrumentasi intra-artikular sebelumnya
- Ulkus kutan (infeksi pada kulit)
- Kondisi immunosupresi (keganasan, HIV, transplan organ)

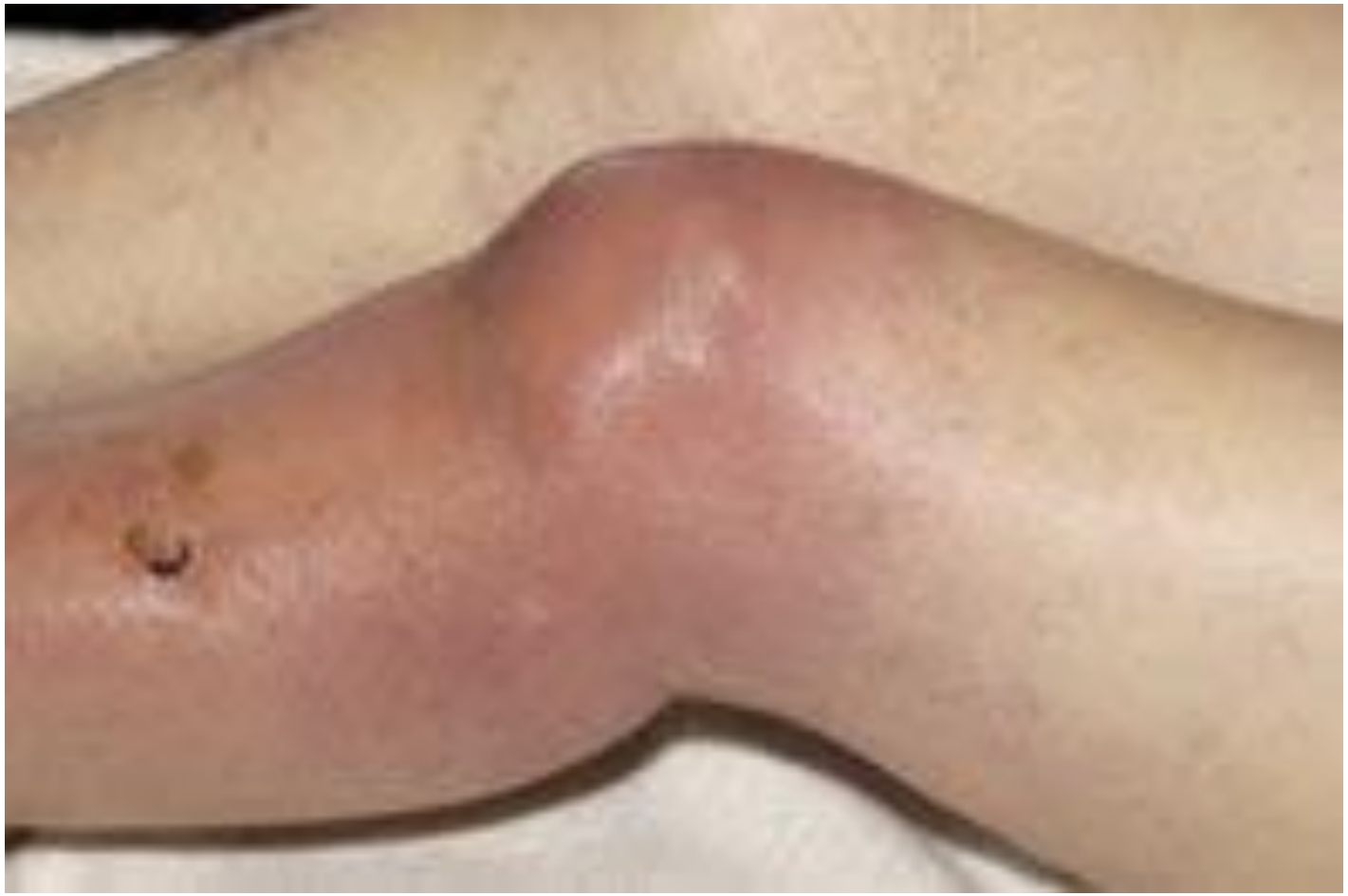
Pathogenesis

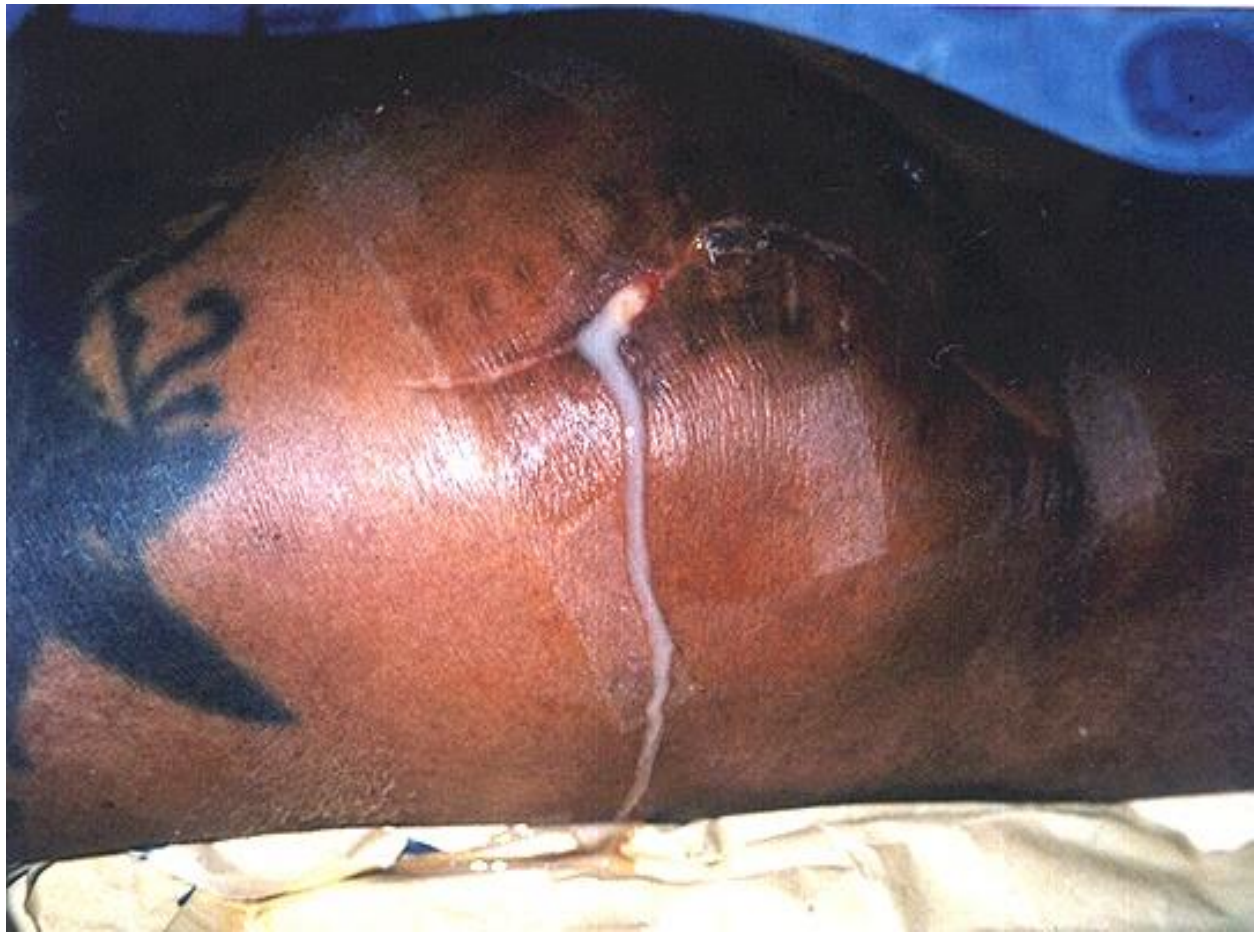
- Hematogenous route
- Lymphogenic route
- Dissemination from an acute osteomyelitic focus in metaphysis or epiphysis (in children)
- Iatrogenic infection


Local soft-tissue infection
Diagnostic or therapeutic procedures
Penetrating trauma
Adjacent osteomyelitis
Hematogenous route

Manifestasi klinis

- Demam dan malaise
- Nyeri, hangat, dan bengkak sekitar sendi
- Kesulitan saat menggerakkan sendi
- Paling sering sendi lutut, sendi panggul, bahu, pergelangan kaki, siku dan pergelangan tangan





Septic arthritis of the knee following joint operation in immunocompromised patient

(Courtesy : Arthritis Care and Research Foundation of the Philippine

Pemeriksaan penunjang

- Leukosit meningkat, LED dan CRP meningkat
- Radiologi tidak khas
- Analisa cairan sendi: WBC > 50.000sel/mm3 dominan PMN
- Pengecatan gram
- Kultur cairan sendi

Synovial fluid analysis

Synovial fluid	Inflammatory	Infectious
Clarity	Clear to opaque	Opaque
Viscosity	Low	Variable
WBC, per mm^3	2,000–10,000	>50,000†
PMNs, percent	≥50	≥75
Culture	Negative	Often positive*
Total protein, g/dL	3–5	3–5
LDH (compared with levels in blood)	High	Variable
Glucose, mg/dL	>25, lower than serum	<25, much lower than serum

WBC = white blood cell, PMNs = polymorphonuclear neutrophils
†Lower with infections caused by low virulence organisms or after partial treatment
*Synovial fluid and blood culture sensitivity declines after antimicrobial therapy has been initiated.

Tatalaksana

- Non farmakologi:
  - Sendi diistirahatkan dalam posisi fisiologis
  - Latihan gerak setelah infeksi teratasi
- Farmakologi
  - Antibiotik adekuat intravena 2 minggu atau per os jika kondisi membaik selama 4 minggu
- Drainase pus (needle aspiration, arthroscopy or surgical)

Ulkus dekubitus

definisi

- Ulkus dekubitus adalah luka akibat tekanan di kulit karena posisi tubuh tidak berganti dalam waktu yang lama.
- Luka akan muncul di area kulit yang paling banyak mendapatkan tekanan, seperti tumit, siku, pinggul, dan tulang ekor

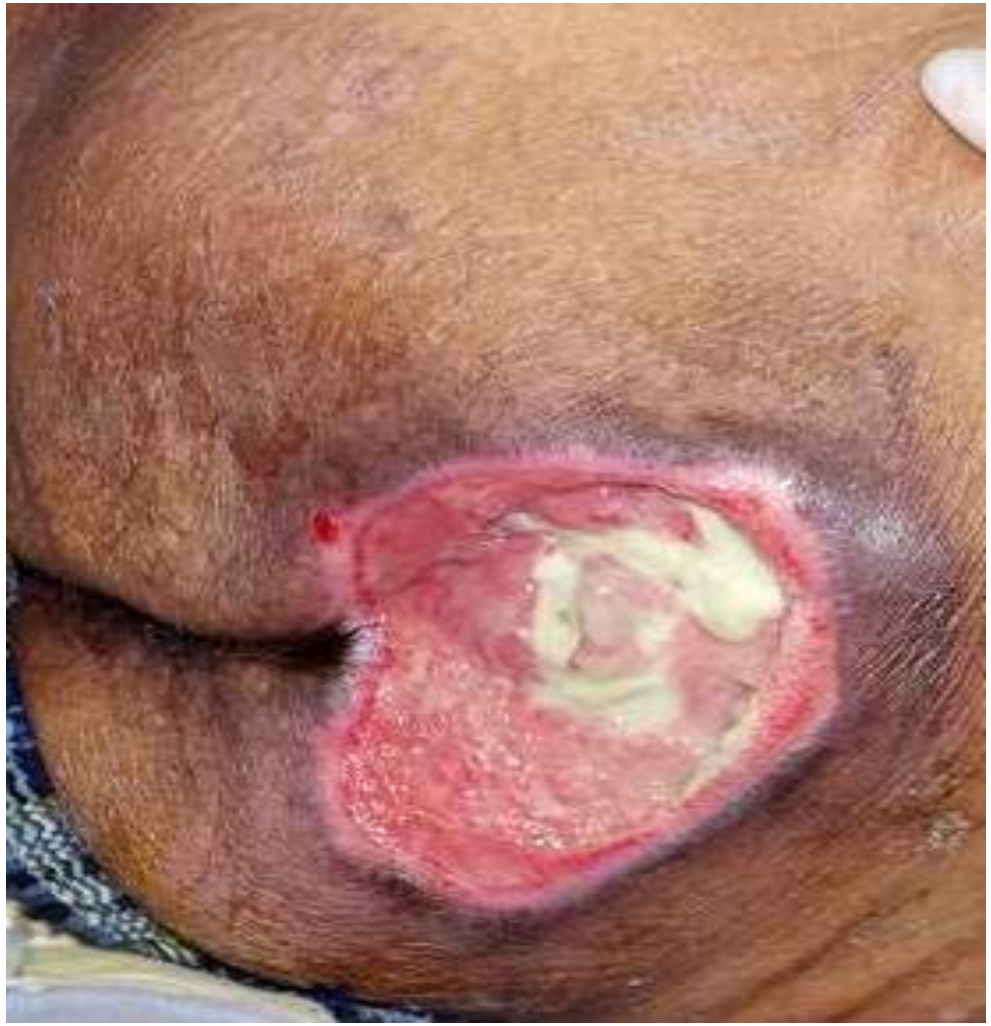
Beberapa faktor yang berpengaruh

- Cedera saraf tulang belakang
- Malnutrisi
- Dehidrasi
- Gangguan aliran darah
- Obesitas
- Inkontinensia urin/alvi

Derajat dekubitus

Derajat 1	perubahan warna pada area kulit tertentu, misalnya menjadi kemerahan atau kebiruan, disertai dengan rasa sakit atau gatal di area tersebut.
Derajat 2	luka lecet atau luka terbuka di area yang terdampak.
Derajat 3	terjadi luka terbuka hingga beberapa lapisan kulit yang lebih dalam (ulkus kulit).
Derajat 4	luka terbuka yang sangat dalam hingga mencapai otot dan tulang.

Ulkus dekubitus



Tatalaksana

- Posisi tubuh perlu diubah secara berkala (miring kiri, miring, kanan, dan kembali terlentang setiap 2 jam).
- penggunaan kasur antidekubitus
- Perawatan luka dekubitus
- Analgesik atau AB jika diperlukan
- Diet TKTP dan cairan

Komplikasi

- Selulitis
- Infeksi tulang dan sendi
- Sepsis