What is Arthritis?

- There are 127 different kinds of arthritis!
- Rheumatoid arthritis: Severe inflammation that involves many joints and moves beyond musculoskeletal system.
- Gout: Very painful form of arthritis characterized by the formation of uric acid crystals and severe inflammation.
- Osteoarthritis: progressive degeneration of joint cartilage. Minor degree of inflammation.

GOUT

- Gout is a metabolic disorder of purine metabolism, characterized by intermittent attacks of acute pain, swelling and inflammation.
- It always preceded by hyperuricaemia (6.0mg/dl)

Hyperuricaemia due to excessive amount of uric acid production or decreased excretion

- Hyperuricaemia - primary or secondary.
- Primary hyperuricaemia classified as

  “Overproducers” or “under execrators”

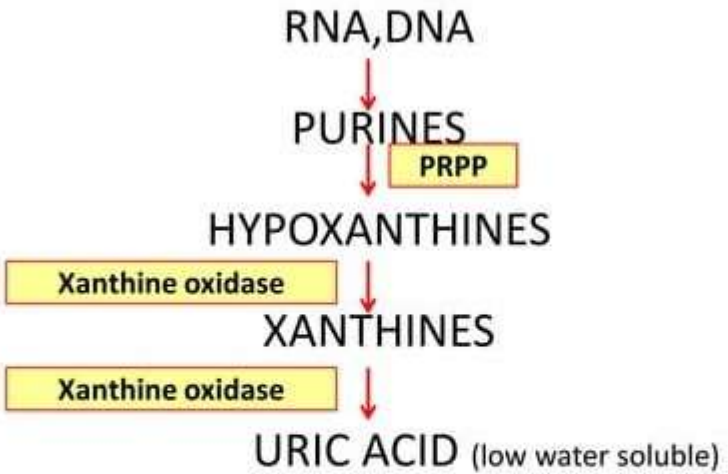
- **Primary Hyperuricemia and Gout with No Associated Condition**

- Uric acid undersecretion(80%–90%)
- Idiopathic
- Urate overproduction (10%–20%)
- HGPRT deficiency
- PRPP synthetase overactivity
- (Phasphoribosyl pyrophosphate)

Secondary Hyperuricemia and Gout with Identifiable Associated Condition

- develop during course of other diseases (Leukaemias, lymphomas, chemotherapy)
- Some drug therapy (Thiazide diuretics, furosamide, ethacrynic acid)
- Some disorders Diabeticketoacidosis, lead poison, Lymphoproliferative diseases, Hemolytic anemias, psoriasis
- Dual mechanism
  Obesity, Hypoxemia and hypoperfusion

Uric acid production and excretion

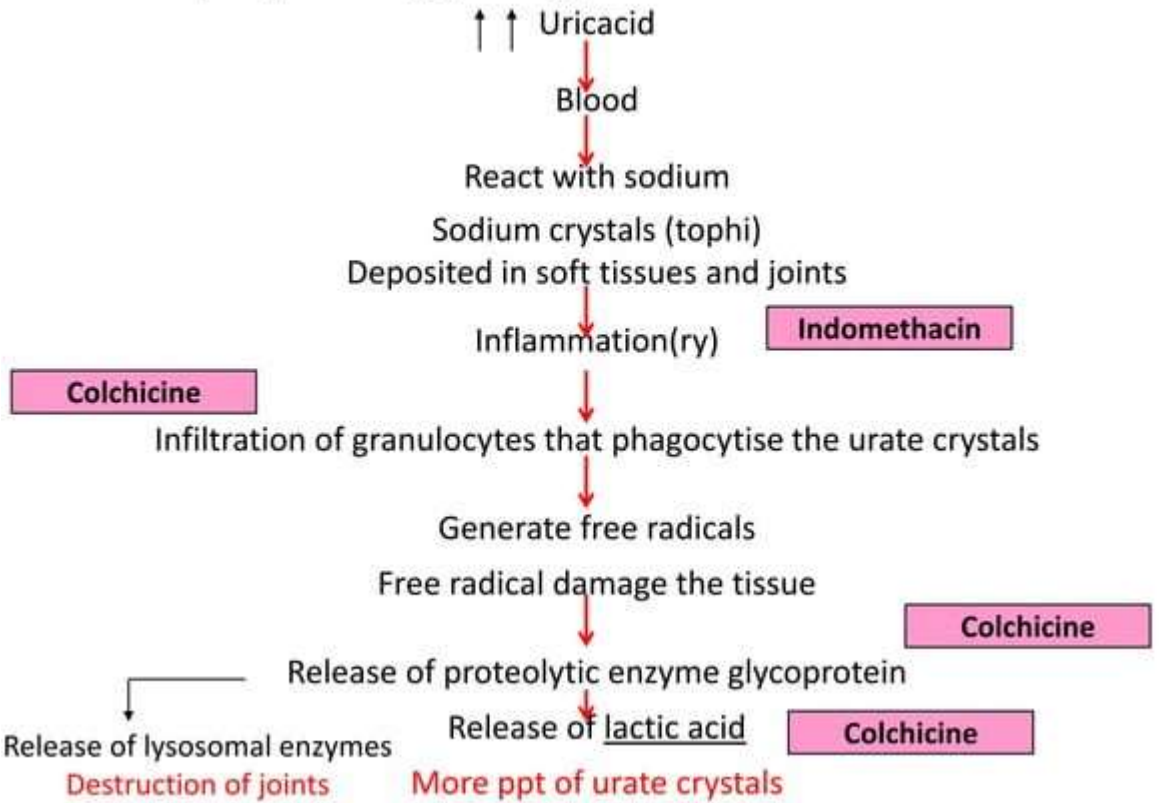


Hyperuricemia | Gout | Deposits of urate crystal | Nephrolithiasis

Uric acid freely filtrated through by glomerulus and reabsorbed by tubular fluid

Probencid

Pathophysiology of gout



Acute gout

- Painful arthritic attack of sudden onset.
- Usually occurring at night or in early morning
- Arthritic pain worsen progressively
- Generally involves one or few joints
- Most common site of initial attack metatarsophalangeal joint.
- Other sites ankle, heel, knee, wrist, elbow and fingers.

Chronic gout

- Frequency of attacks increases, continuous deposit leads to damage joints and chronic pain
- Patients may develop large subacutenous tophi (Stones) in pinna of external ear, eyelids, nose and around joints
- The ureate crystals in kidney leads renal disease.
- Articular cartilage may be destroyed result in joint deformities

GOUT - TREATMENT

GOALS:

1. terminate acute attack
2. provide rapid, safe pain/anti-inflammatory relief
3. prevent complications
   - destructive arthropathy
   - tophi
   - renal stones

Classification of drugs used in gout

ACUTE GOUT **:**

1. NSAIDS
2. Corticosteroids
3. Colchicine

CHRONIC GOUT:

- Inhibit uric acid synthesis:- Allopurinol, febuxostate (Urostatic)
- Increase uric acid excretion:- Probencid, Sulphinpyrazole (Urosuric)