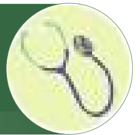

Excruciating Pain in the Foot

Jerzy K. Pawlak, MD, MSc, PhD; and T. J. Kroczak, BSc

A 68-year-old male presents with a history of recurrent attacks of excruciating pain in the right first metatarsophalangeal joint over the last three months (Figure 1). Previously he had similar but very mild attacks of pain in the left metatarsophalangeal joint about two years ago.

Statistics

- He was working as a carpenter
- He is retired now
- He appears healthy

Medical history

- He is positive for hypertension over the last six years
- He has problems with dyslipidemia
- He is taking atenolol 50 mg q.d., rosuvastatin 10 mg q.d. and occasionally ibuprofen for joint pain
- He is borderline diabetic and on a diabetic diet
- His brother, 63, has had recurrent problems with gout

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Clinical investigations

- X-ray was taken of his right foot (Figure 2)
- His sedimentation rate is 22 mm/hour
- His white blood cell count is 12.2109/L
- His uric acid is 540 µmol/L
- His glucose fasting is 6.6 mmol/L
- His total cholesterol fasting is 5.4 mmol/L

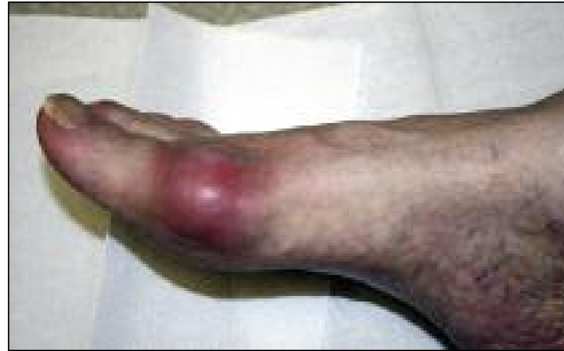

Figure 1. Pain in the right first metatarsophalangeal joint.

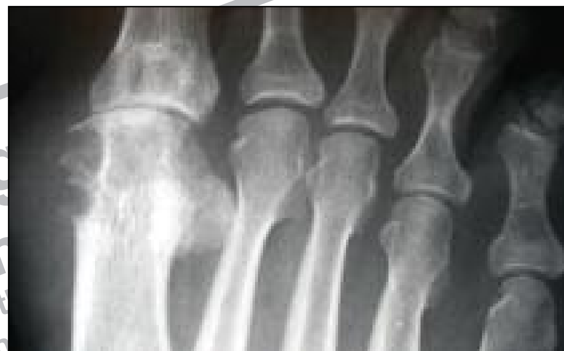

Figure 2. X-ray of the right foot.

What's your diagnosis?

a. Cellulitis
b. Gout
c. Septic arthritis
d. Rheumatoid arthritis

Answer: Gout

About Gout

His x-ray showed erosions with overhanging margins at the medial aspect of the head of the first metatarsal bone. Smaller erosions are seen

laterally. There is marked soft tissue swelling medially consistent with a gouty tophus. Subchondral cysts are seen in the base of the first proximal phalanx. The findings are consistent with gout.

Gout is a common disorder of uric acid metabolism that can lead to recurrent episodes of joint inflammation, tissue deposition of uric acid crystals and joint destruction if left untreated. Unlike many other rheumatic diseases, gout is very treatable. A definitive diagnosis can be made using joint aspiration and synovial fluid analysis. Early diagnosis and treatment have made a significant impact in this disorder, as evidenced by the declining incidence of chronic tophaceous gout. However, tophaceous gout may occur due to misdiagnosis, poor management and poor patient compliance.

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Gout arthritis is characterized by recurring acute arthritis, usually monoarticular or oligoarticular and later chronic deforming arthritis. The pain is usually excruciating. Involved joints show all the signs of inflammation:

- swelling,
- warmth,
- erythema and
- tenderness.

The erythema over the joint can resemble cellulitis and the skin may desquamate as the attack subsides. The joint capsule becomes quickly swollen, resulting in a loss of range of motion of the involved joint. During an acute gout attack, patients can have a fever, particularly if it is an attack of polyarticular gout. The presence of tophi suggests long-standing hyperuricemia.

There are three stages in the management of gout:

- Treating the acute attack
- Providing prophylaxis to prevent acute flares
- Lowering excess stores of uric acid to prevent flares of gouty arthritis and to prevent tissue deposition of uric crystals Dx

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