Gouty Arthritis

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Objectives

- Describe the clinical manifestations and treatment of gouty arthritis

Gout

- King of Diseases
- Disease of Kings
  - Henry VII
  - Henry VIII
  - Alexander the Great
  - Kubilai Khan
  - Martin Luther
  - Ben Franklin
  - Sir Isaac Newton

Gout: Historical Aspects

- 500 BC: Hippocrates describes aphorisms on gout
- 1679: van Leeuwenhoek in gouty tophi
- 1683: Sydenham’s classic description
- 1848: Garrod finds hyperuricemia in gout
- 1961: McCartney/Hollander rediscover crystals in synovial fluid

Disclosures

- Speaker’s Bureau
  - Amgen
  - Novartis
  - Savient
- None of this activity relates to the information presented today

Gout

- A clinical syndrome resulting from the deposition of monosodium urate crystals
- Hyperuricemia found in 2-17% of the population
- Typically presents in men between age 30-50 years of age. Prevalence seems to be increasing.
- Rare in premenopausal women
Gout: 4 Stages

• Asymptomatic Hyperuricemia
• Acute Gouty arthritis
• Intercritical Gout
• Chronic tophaceous Gout

Asymptomatic Hyperuricemia

• At puberty, serum urate concentrations increase by 1-2 mg/dl
• Most people with hyperuricemia will remain asymptomatic throughout their lives
• Rate of acute gout and nephrolithiasis increases with the level of hyperuricemia
• Often requires 15-20 years of sustained hyperuricemia before an acute attack
• No need to treat hyperuricemia with meds

Asymptomatic Hyperuricemia

• Is the patient obese?
• Alcohol usage (especially beer)?
• Thiazide diuretics or aspirin usage?
• Renal disease?
• Myeloproliferative disease?
• Lead exposure?

Acute Gouty Arthritis

• Peak onset in 30-50 years of age in men
• Occurs in postmenopausal women
• Abrupt onset, May last for several days
• Monarthritis in 85-90%, but some cases present with pauciarticular involvement
• MTP is the most common joint affected
• Midfoot, ankle, knee, wrist, fingers, elbows, bursa also affected
Sydenham’s Classic Description

- The victim goes to bed and sleeps in good health. About 2 o’clock in the morning, he is awakened by a severe pain in the great toe; more rarely in the heel, ankle, or instep. This pain is like that of a dislocation, and yet the parts feel as if cold water were poured over them. Then follow chills and shivers and a little fever. The pain, which was at first moderated, becomes more intense. With its intensity the chills and shivers increase. After a time this comes to its full height, accommodating itself to the bones and ligaments of the tarsus and metatarsus. Now it is a violent stretching and tearing of the ligaments—now it is a gnawing pain and now a pressure and tightening.

Sydenham’s Classic Description

- So exquisite and lively meanwhile is the feeling of the part affected, that it cannot bear the weight of bedclothes nor the jar of a person walking in the room. The night passes in torture, sleeplessness, turning of the part affected, and perpetual change of posture: the tossing about of the body being as incessant as the pain of the tortured joint, and being worse as the fit comes on. Hence the vain effort by change or posture, both in the body and limb affected, to obtain an abatement of the pain.

Acute Gouty Arthritis

- Precipitating events
  - Surgery
  - Trauma
  - Medical illness: MI, CHF
  - Alcohol, Aspirin, diuretics, cyclosporine
  - Dietary excesses
  - Anything that can cause sudden hyperuricemia such as Diabetic ketoacidosis, acute renal failure, malignancy
Acute Gouty Arthritis

- Diagnosis: ASPIRATE THE JOINT AND LOOK FOR CRYSTALS-NEEDLE SHAPED, STRONGLY NEGATIVE BIREFRINGENT
- Don’t rely on the serum uric acid level
- Don’t rely on the joint involved
- Don’t be fooled by leukocytosis, fever, skin erythema, synovial fluid WBC, normal or abnormal x-ray

Acute Gouty Arthritis: Treatment

- NSAIDs: Indomethacin, Sulindac, others
- Colchicine
  - Oral: 1.2 mg followed in one hour by 0.6 mg.
  - IV: Taken off the market
  - No longer generic
- Steroids
  - Oral: Prednisone 20-30 mg with rapid taper
  - Intraarticular or IV steroids

Gout: Intercritical Period

- A symptom free period between attacks
- Sometimes a second attack never occurs, but 62% recurrence within 1 year, 78% within 2 years
- Time between attacks usually becomes briefer

The Way CME Should Be

Gout: Intercritical Period: Treatment
- Consider initiation of chronic pharmacological therapy after the first attack
- Weight Control
- Avoidance of high purine foods
- Avoid aspirin and thiazide diuretics
- Educate regarding evaluation and treatment of second attack

Second Acute Attack
- Treat acutely as one would with the first attack
- After the attack is controlled, consider checking a 24 hour urine for uric acid (if the results would alter treatment plans)
- Begin prophylaxis with colchicine 0.6 mg BID or a NSAID
- Gradually add in Allopurinol or Probenecid

Gout: Chronic Pharmacological Treatment
- Uricosuric agents (Probenecid)
  - Used in underexcretors (24 hour urine uric acid is less than 600 mg)
- Xanthine oxidase inhibitors (Allopurinol)
  - Overproducers (24 hour urine uric acid is greater than 750 mg)
  - Renal insufficiency
  - Tophaceous deposits
  - Nephrolithiasis
  - On Diuretics or low dose aspirin

Gout: Chronic Pharmacological Treatment
- Never start during an acute attack (but may continue the med if chronically used)
- After the acute attack is resolved, begin prophylactic treatment with either colchicine 0.6 mg BID or a NSAID
- Gradually begin allopurinol or probenecid
- Average allopurinol dose is 300 mg daily, but some require higher dose (up to 800 mg daily)
- May eventually discontinue the prophylactic therapy when serum uric acid is ≤ 6.0 mg/dl

New Agent: Febuxostat (Uloric®) vs. Allopurinol
- Xanthine Oxidase Inhibitor (with different chemistry than allopurinol)
- Daily oral dosage 40-80 mg
- More effective in lowering uric acid levels than allopurinol
- Similar reductions in gout flares and tophus area occurred in all treatment groups.
- May be useful in patients that fail allopurinol due to inefficacy or side effects (especially renal insufficiency)
- In clinical trials, the most common adverse reactions in patients treated were liver function abnormalities, joint pain, and rash

Chronic Tophaceous Gout
- Can enter a chronic polyarticular phase which can be confused with other conditions
- Tophaceous deposits can accumulate in time
- Often in an irregular, asymmetric distribution
- Erosions with overhanging edges on x-ray

Questions from the Audience?