Acute gout

Features
- Acute onset and rapid progression, peaking within 24 hours.
- Excruciating pain, swelling, erythema and heat in the affected joint.
- The first metacarpophalangeal joint is most commonly affected.
- Minimal systemic upset.

Main differential diagnoses
Septic arthritis:
Systemic features of infection, gradual onset, more prolonged course, lack of response to gout treatment. Refer to secondary care for aspiration, diagnosis and management.

Also:
- Haemarthrosis.
- Other crystal arthropathy (pseudogout).

Investigations
Not usually necessary before starting treatment in primary care, however:
- A mild pyrexia is not uncommon.
- Inflammatory markers will be raised.
- White cell count may be elevated.
- Renal function may be important in choice of drug treatment and dosage.
- Microscopy of aspirated synovial fluid, if attempted and successful, will reveal urate crystals under polarised light.

NB: serum urate levels are often normal during acute gout episodes and measurement should be deferred until after the acute episode has settled. X-rays are not helpful in acute gout.

Treatment
Either:
- Naproxen – consider renal function and need for PPI.
- Colchicine – consider renal function and need for reduced dosage.
- Prednisolone – oral (25-30mg daily for five to seven days) or intramuscular injection.

And:
Ice packs, elevation, bed cage, vitamin C, sour cherries (or the juice).

Follow-up
Acute gout should be followed up in primary care, four to six weeks later.

Review:
- The affected joint.
- Lifestyle history, diet, alcohol, weight, exercise and give appropriate advice.
- Full cardiovascular risk and give appropriate advice.
- Blood pressure and BMI.
- Further blood tests: serum urate, renal function, lipids, TFTs, HbA1c and LFT.

Patient information leaflets and useful websites – ukgoutsociety.org, arthritisresearchuk.org

Review with blood test results
Consider urate lowering therapy (ULT) for patients with urate levels above 0.36mmol/l, especially if there have been previous episodes of acute gout and in the presence of adverse cardiovascular risk, alongside appropriate lifestyle interventions.

Chronic gout and hyperuricaemia

Risk factors
- Male sex.
- Increasing age (7% of males over 75 years).
- Raised BMI.
- Dietary issues – high intake of purines (red meats and seafood), fructose (especially in fructose-sweetened fizzy drinks), alcoholic drinks (especially beers).
- Factors that reduce urate excretion: genetics, hypertension, diuretics, CKD, hyperlipidaemia.
- Metabolic syndrome.
- Lymphoproliferative disorders.
- Chemotherapy.

Starting ULT
- Start when the acute episode has settled.
- Initiate appropriate lifestyle measures.
- Review renal function.
- Stop/change any medication that may impair renal function and urate excretion (especially diuretics).
- Start prophylactic therapy with colchicine 0.5mg bd for three to six months or naproxen 250mg bd for six weeks (consider need for PPI).[1]
- Start allopurinol 100mg daily and increase by 100mg at monthly intervals until the serum urate is <0.3mmol/l. The maximum dose is 900mg daily – less in renal impairment, which must be monitored.
- Losartan and fenofibrate are drugs with uricosuric properties that may be used to treat comorbidities where present.

NB: Hypersensitivity to allopurinol is rare but potentially serious.

Referral for specialist rheumatology care
For consideration of alternative ULT if appropriate (febuxostat) if there are problems with allopurinol, such as:
- Allergic reaction.
- Worsening renal function.
- Gout that is symptomatic on maximum dose (check compliance).
- Target urate level not achieved on maximum dose (check compliance).

Long-term follow-up
Six-monthly review:
- Gout symptoms, compliance with ULT.
- Renal function and serum urate level.
- Progress against lifestyle issues.

Annual review:
- Full cardiovascular risk profile – blood pressure, weight, lipids, HbA1c, renal and liver function.
- Lifestyle review.
- Other medication needs for comorbidities.

Reference
1 Jordan MK, Cameron S, Snaith M et al. British Society for Rheumatology and British Health Professionals in Rheumatology guideline for the management of gout. *Rheumatology*, 2007;46:1372-74