NHS
Greater Glasgow and Clyde

CLINICAL GUIDELINE

Acute and Chronic Gout Management

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Important Note:

The Intranet version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

Clinical Guideline - Acute and Chronic Gout Management

Section 1 Background to Gout

Epidemiology

Gout is common;

- affects over 2% of the UK population
- increasing incidence, prevalence and severity
- more common in men

Risk Factors

- hyperuricaemia – but it is not recommended that asymptomatic hyperuricaemia is treated
- obesity - aim for Body Mass Index in optimal range
- a well balanced diet and regular exercise should be encouraged
- diet - alter diet to avoid purine rich foods (red meat, seafood, fructose)
- excess alcohol – reduce alcohol (especially beer and spirits)
- dehydration – important to keep well hydrated
- medication – review diuretics and consider stopping thiazide diuretic if appropriate.
- renal impairment
- metabolic syndrome – hypertension, hyperlipidaemia, diabetes mellitus type 2, treat as appropriate

Diagnosis

Presentation

- acute attacks usually start very rapidly with pain, redness and swelling
- typically the first metatarsophalangeal joint is affected
- almost any joint can be affected
- if gout is left untreated, it is likely to affect more joints over time

Differential Diagnosis

- septic arthritis
- pseudo-gout (pyrophosphate arthritis)

Investigations

- serum urate – this sometimes falls during acute attacks, so if the urate is normal, it should be repeated once the acute attack has resolved
- urea and electrolytes, liver function tests. Consider glucose/lipids
- joint aspiration for gram stain, culture and microscopy for urate crystals. This is not needed if the diagnosis has previously been established and there is no suspicion of septic arthritis
- X-ray feet

Education

Patients should receive education on

- treating acute attacks as soon as possible
- modification of lifestyle and risk factors
- use of urate lowering therapy

Referral

Referral to Secondary Care

- most patients are cared for in Primary Care
- referral to A&E is required for patients in which septic arthritis is suspected
- urgent (telephone) referral to Rheumatology may be helpful for joint aspiration (for diagnosis, exclusion of sepsis and treatment)
- telephone advice from Rheumatologists will often avoid the need for referral

Telephone Contact Details for Rheumatology Teams

New Stobhill Hospital	0141 355 1521 or 1062
Glasgow Royal Infirmary	0141 211 4329
Gartnavel General Hospital	0141 211 3057 or 0141 531 3720
New Victoria Hospital	0141 347 8058
Queen Elizabeth University Hospital	0141 451 6081
Royal Alexandra Hospital	0141 314 9557
Inverclyde Royal Hospital	01475 504561

Clyde Consultant Email Clyde.Rheumatology@ggc.scot.nhs.uk (RAH, IRH, VOL)

Please see the following pages for Drug Treatment details

Section 2 Drug Treatment for Acute Gout

Symptoms of an acute attack of gout typically develop over a few hours and last 3 to 10 days. If patient is already on allopurinol or febuxostat for chronic gout, **DO NOT STOP IT**. If possible, stop diuretics.

Self care

During a gout attack, it is important to rest, raise the limb and avoid knocking or damaging the affected joint. Ice packs also help.

For pain and inflammation, consider:

- Oral non-steroidal anti-inflammatory drug (NSAID) at maximum dose e.g. naproxen 500mg twice daily, unless contraindications +/- proton pump inhibitor (PPI) for 1 to 2 weeks until the acute attack settles - see NHS GGC Oral Non Steroidal Anti-inflammatory (NSAID) Guidelines here. Please refer to GGC Staffnet or App for more information on GGC Formularies and Clinical Guidelines

- Alternatively, colchicine 500 micrograms twice daily for up to 6 days can be prescribed. NB Licensed courses of colchicine for acute attacks do not exceed 6mg (12 tablets) in total, with 3 days between courses. The use of colchicine is limited by the development of toxicity at higher doses, but it is of value if NSAIDs are contraindicated, not tolerated or ineffective, and in patients with heart failure since, unlike NSAIDs, it does not induce fluid retention; moreover it can be given to patients receiving anticoagulants. Please refer to the Prescribing Notes section for further information

- Oral corticosteroids (e.g. prednisolone 7.5 to 15mg daily for 3 to 5 days), useful when NSAIDs and colchicine are contraindicated, not tolerated or ineffective. Alternative is intramuscular corticosteroids - discuss with Rheumatology

- +/- Joint aspiration/ intra-articular injection of a corticosteroid in mono-articular gout after infection excluded by negative synovial fluid culture (e.g. methylprednisolone or triamcinolone) - discuss with Rheumatology

- Review at 4 to 6 weeks – assess lifestyle and cardiovascular risk factors, undertake medication review (diuretics) and measure serum uric acid level and renal function

Section 3 Drug Treatment for Chronic Gout

Just over half of all people with gout (62%) experience a repeat attack within a year. Two methods are used to prevent further attacks of gout - making lifestyle and risk factor changes to reduce uric acid levels, and medication to reduce uric acid levels.

Medication to reduce uric acid levels - what is the aim?

- To prevent further acute attacks of gout. Warn the patient that attacks may continue until serum urate lowering therapy is established
- To reduce the size of tophi
- To reduce joint damage

Serum Urate Target Level

- Aim for initial serum urate **≤ 300 micromol/L**. Until the target is achieved, the patient will require serial monitoring of serum urate. Annual serum urate monitoring is encouraged, particularly if recurrent acute attacks. After some years (at least 3 years) of successful treatment, when tophi have resolved and the patient remains free of symptoms, the dose of urate lowering therapy can be adjusted to maintain the serum urate at or below a less stringent target of **360 micromol/L** to avoid further crystal deposition and the possibility of adverse effects that may be associated with a very low serum urate level i.e. studies that have shown a possible association between low serum urate levels and progression of neurodegenerative disorders

- Commencement of urate lowering therapy (e.g. allopurinol) is best delayed until after the acute inflammation settles as it is better to discuss when the patient is not in pain. Urate lowering therapy is usually started 1 – 2 weeks after the acute attack has settled, and continued indefinitely. However, if attacks are so frequent to make this difficult, urate lowering therapy may need to be started during acute inflammation. Allopurinol can be started during an acute attack if necessary providing treatment for acute gout also given

Who to treat with serum urate lowering therapy?

Urate lowering therapy should be discussed and offered to all patients who have a diagnosis of gout. Urate lowering therapy should particularly be advised in patients with the following:

- recurring attacks (≥ 2 acute attacks in 12 months)
- tophi
- chronic gouty arthritis
- joint damage
- renal impairment (eGFR < 60ml/min)
- a history of urolithiasis
- diuretic therapy use
- primary gout starting at a young age (under 40 years)
- very high serum urate **> 500 micromol/L**

Drug Treatment

- Allopurinol is recommended first line drug and should be initiated once the acute attack has settled to lower serum urate levels and reduce risk of further acute attacks. Start allopurinol 100mg daily, dose to be taken preferably after food. Start with 50mg daily or 100mg on alternate days in renal impairment.

- Every 4 weeks check the serum urate level, and escalate the dose of allopurinol by 100mg daily at monthly intervals to target serum urate level. Usual maintenance dose of allopurinol is 300mg per day (maximum 900mg daily in divided doses, preferably after food,). Once this target is achieved, it often takes up to a year or two before all crystals have dissolved and no further attacks occur, and the less stringent serum urate target can be applied. The medication will then usually be life-long. Advice on doses in renal impairment is in the Prescribing Notes section.

- If the patient is intolerant of allopurinol (side effects of high dose can include severe rash), allopurinol is contraindicated or in symptomatic patients whose uric acid levels have failed to respond adequately despite optimal dosing of allopurinol, then try febuxostat 80mg daily, increasing after 4 weeks to 120mg daily if necessary to achieve serum urate target level. Please refer to the Prescribing Notes section for further information.

- The initiation of urate lowering therapy may precipitate an acute attack of gout, and therefore an NSAID or colchicine should be used as a prophylactic during initial urate lowering therapy. If an acute attack develops during treatment, then the urate lowering therapy should continue at the same dosage and the acute attack treated in its own right.

- There is limited evidence available about prophylactic medication and duration, and treatment choice often depends on co-morbidities and contraindications to medicines. The British National Formulary (BNF) recommends that low dose NSAID e.g. naproxen 250mg twice daily +/- PPI, or colchicine e.g. 500micrograms once or twice daily can be considered as short term prophylaxis for at least one month after hyperuricaemia has been corrected (usually for first 3 months) to avoid precipitating an acute attack. Please refer to the Prescribing Notes section for further information. Please refer to GGC Staffnet or App for more information on GGC Formularies and Clinical Guidelines.

IMPORTANT NOTE - COLCHICINE:
Patients should be counselled to carefully follow the prescribed dosage and STOP taking colchicine if gastrointestinal upset/diarrhoea.

IMPORTANT NOTE - Please refer to Prescribing Notes section for further information on Drug Treatment

Section 4 Prescribing Notes

(Please refer to BNF and Summary of Product Characteristic for further details regarding cautions, contra-indications and drug interactions)

NSAIDs

Renal impairment: The lowest effective dose should be used for the shortest possible duration. Avoid in eGFR < 30ml/minute.

Colchicine

Dosage differs depending on indication e.g. acute attack or prophylaxis

Renal impairment: Should not be used in patients with severe renal impairment (eGFR < 10ml/minute). For mild/moderate renal impairment (eGFR 10 to 50ml/minute) and in the elderly, reduce dose or increase dosage interval.

Cautions: Colchicine has a narrow therapeutic window and is extremely toxic in overdose. Patients at particular risk of toxicity are those with renal or hepatic impairment, gastrointestinal or cardiac disease, and patients at extremes of age. Colchicine should also only be used with caution and at low doses in patients taking drugs that are potent inhibitors of cytochrome P450 3A4 (e.g. cimetidine, clarithromycin, erythromycin, fluoxetine, ketoconazole, protease inhibitors, tolbutamide) or p-glycoprotein (e.g. clarithromycin, ciclosporin, erythromycin). Caution is also required when using colchicine in patients receiving statins, particularly in those with renal impairment, as there are case reports of myopathy and rhabdomyolysis following combined use of colchicine and statins. See BNF for further information on interactions.

Patients should be counselled to carefully follow the prescribed dosage and STOP taking colchicine if gastrointestinal upset/diarrhoea.

Allopurinol

Ideally start after acute attack has settled unless attacks are so frequent to make this difficult.

Renal impairment: From the BNF, in renal impairment the maximum recommended dose is 100mg daily, increased only if response is inadequate. Do not increase allopurinol above 100mg daily if eGFR < 30ml/minute without discussion with Rheumatology or Renal.

Lowering the starting dose of allopurinol appropriate to the level of renal function reduces the risk of allopurinol hypersensitivity, and subsequent gradual increase in the dose based on renal function results in reduction of serum urate to target levels without increase in toxicity. In patients with renal impairment, smaller increments (50 mg) should be used and the maximum dose will be lower, but target urate levels should be the same.

There have been rare reports of increased effect of warfarin and other coumarin anticoagulants when co-administered with allopurinol, therefore, all patients receiving anticoagulants must be carefully monitored.

Skin rashes: may occur in up to 10% of people and could be a first sign of severe but rare hypersensitivity reaction. Patients should be advised to stop allopurinol immediately and seek medical advice promptly. After recovery from mild reactions, allopurinol tablets may, if desired, be re-introduced at a small dose and gradually increased. If the rash recurs allopurinol tablets should be permanently withdrawn as more severe hypersensitivity may occur.

Febuxostat

Ideally start after acute attack has settled unless attacks are so frequent to make this difficult.

Renal impairment: Use with caution in patients with eGFR < 30ml/minute - no further information available.

Cautions: Maximum dose of 80mg daily in mild liver impairment (no information available in moderate-severe liver impairment). Use with caution in patients with thyroid disorders. Treatment with febuxostat in patients with ischaemic heart disease or congestive cardiac failure is currently not recommended.

Serious hypersensitivity reactions: Stevens-Johnson syndrome and acute anaphylactoid / shock reactions have been reported, mostly during the first month of therapy. Patients should be advised of the signs and symptoms of severe hypersensitivity; febuxostat must be stopped immediately if these occur (early withdrawal is associated with a better prognosis), and must not be restarted in patients who have ever developed a hypersensitivity reaction to febuxostat. Most cases occur during the first month of treatment; a prior history of hypersensitivity to allopurinol and/or renal disease may indicate potential hypersensitivity to febuxostat.

References:

Hui M., Carr A et al. British Society for Rheumatology Guideline for the Management of Gout 2017

Joint Formulary Committee. British National Formulary. 74 ed. London: BMJ Group and Pharmaceutical Press 2017