

tion of about 404 $\mu\text{mol/L}$ (6.8 mg/dL), above which precipitation may occur. However, this threshold is not absolute because patients with higher serum urate levels may still be asymptomatic, and some may have acute flares below this threshold. Although there is an association between lower urate levels and fewer gout flares, the extent to which use of urate-lowering therapy to achieve various targets can reduce gout flares is uncertain. The **Figure** summarizes the recommendations and clinical considerations.

RECOMMENDATIONS

Recommendation 1: ACP recommends that clinicians choose corticosteroids, nonsteroidal anti-inflammatory drugs (NSAIDs), or colchicine to treat patients with acute gout. (Grade: strong recommendation, high-quality evidence)

High-quality evidence showed that corticosteroids, NSAIDs, and colchicine are effective treatments to reduce pain in patients with acute gout. Gout symptoms are mostly caused by inflammatory reaction to the deposition of urate crystals, which results from an increase in serum urate level above its saturation point in the blood. Hence, most medications that are used to target anti-inflammatory responses help to reduce the symptoms. Contraindications, harms, and costs vary among treatments.

Corticosteroids should be considered as first-line therapy in patients without contraindications because they are generally safer and a low-cost treatment option. Steroids are among the most effective anti-inflammatory medications available and have been shown to be as effective as NSAIDs for managing gout, with fewer adverse effects. Prednisolone at a dose of 35 mg for 5 days has been successfully used to treat acute gout (15). Adverse effects associated with long-term use of corticosteroids include dysphoria, mood disorders, elevation of blood glucose levels, immune suppression, and fluid retention. Corticosteroids are contraindicated in patients with systemic fungal infections or known contraindications.

Moderate-quality evidence showed no difference between different types of NSAIDs, including indomethacin. Adverse effects associated with NSAIDs include dyspepsia and potential gastrointestinal perforations, ulcers, and bleeding. Patients in whom NSAIDs may be contraindicated include those with renal disease, heart failure, or cirrhosis. Although indomethacin is commonly considered as the first-line NSAID for treatment of acute gout, there is no evidence that it is more efficacious than other NSAIDs, such as naproxen and ibuprofen.

A generic formulation of colchicine is now available for gout treatment, but it is still more expensive than NSAIDs or corticosteroids. Adverse effects associated with colchicine include gastrointestinal issues (such as diarrhea, nausea, vomiting, cramps, and pain) and, infrequently, headache and fatigue. Colchicine is contraindicated in patients with renal or hepatic impairment

who are using potent cytochrome P450 3A4 inhibitors or P-glycoprotein inhibitors.

Recommendation 2: ACP recommends that clinicians use low-dose colchicine when using colchicine to treat acute gout. (Grade: strong recommendation, moderate-quality evidence)

Moderate-quality evidence suggests that lower doses of colchicine (1.2 mg followed by 0.6 mg 1 hour later) are as effective as higher doses (1.2 mg followed by 0.6 mg/h for 6 hours) at reducing pain and are associated with fewer gastrointestinal adverse effects.

Recommendation 3: ACP recommends against initiating long-term urate-lowering therapy in most patients after a first gout attack or in patients with infrequent attacks. (Grade: strong recommendation, moderate-quality evidence)

Although evidence supports the benefits of using urate-lowering therapy for shorter durations to reduce gout flares, the benefits of long-term use (≥ 12 months) in patients with a single or infrequent gout attacks (< 2 per year) have not been studied. Urate-lowering therapy is not necessary in cases where the patient would have no or infrequent recurrences. In cases of recurrent gout (≥ 2 episodes per year) or problematic gout (for example, gout associated with tophi, chronic renal disease, or urolithiasis), shared decision making with the patient is warranted to review possible harms and benefits of urate-lowering therapy.

Recommendation 4: ACP recommends that clinicians discuss benefits, harms, costs, and individual preferences with patients before initiating urate-lowering therapy, including concomitant prophylaxis, in patients with recurrent gout attacks. (Grade: strong recommendation, moderate-quality evidence)

After resolution of acute gout, some patients may have recurrent episodes. Some patients have no or few attacks over many years, whereas others have more frequent attacks. Although evidence is inadequate to predict which patients will have more problems, those with higher serum urate levels (especially $> 476 \mu\text{mol/L}$ [> 8 mg/dL]) are at greater risk. Some may prefer to initiate long-term therapy to prevent future gout attacks, whereas others may prefer to treat flares if they occur. Patients who decide not to initiate urate-lowering therapy can revisit their decision if they have multiple recurrences of acute gout.

Febuxostat (40 mg/d) and allopurinol (300 mg/d) are equally effective at decreasing serum urate levels. However, these drugs are associated with adverse effects, including rash with allopurinol and abdominal pain, diarrhea, and musculoskeletal pain with febuxostat.

Data on the most appropriate duration of urate-lowering therapy are insufficient. Moderate- to high-quality evidence suggests that urate-lowering therapy reduces the risk for acute gout attacks after 1 year, but not within the first 6 months of treatment.