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Colchicine

What is its place in the management of acute gout?

This series of articles facilitated by the Cochrane Musculoskeletal Group (CMSG) aims to place the findings of recent Cochrane musculoskeletal reviews in a context immediately relevant to general practitioners. This article considers the place of colchicine in the management of acute gout.

Gout is a common inflammatory arthritis resulting from the crystallisation of uric acid within joints. It is often, but not always, associated with hyperuricaemia. It is common, affecting around 2% of men aged over 30 years and women aged over 50 years, and its prevalence appears to be increasing.¹ In Australian general practice, it is in the top 20 of chronic diseases managed and is seen at a rate of six per 1000 general practitioner encounters.²

Treatment options for acute gout include nonsteroidal anti-inflammatory drugs (NSAIDs), colchicine, systemic corticosteroids and intra-articular aspiration and injection of long acting corticosteroid,^{3,4} although the evidence for these options is of varying strength.

Schlesinger et al⁵ performed a systematic review to assess the efficacy and adverse effects of colchicine compared to placebo or compared to other acute gout treatments. The review results are summarised in *Table 1* and how these results might affect practice are shown in the case studies in *Table 2*.

Conclusion

While colchicine has demonstrated its efficacy as a treatment of acute gout at the standard dosage of 1 mg orally, followed by 0.5 mg 2 hourly, the high levels of gastrointestinal side effects limits its use at those doses. The only evidence to support the use of lower doses is weak – coming from case reports – but this remains an option in patients in whom other therapies are contraindicated. Further research is required to determine the lowest dose of colchicine

Table 1. Key review results⁵

- Only one randomised controlled trial (RCT) of the use of colchicine was identified, which studied 43 predominantly male participants. Treatment was with colchicine 1 mg orally followed by 0.5 mg every 2 hours until complete response or toxicity
- All 22 participants taking colchicine developed diarrhoea and/or vomiting, beginning at a median of 24 hours, after a mean dose of 6.7 mg
- The number needed to treat for colchicine to result in at least a 50% decrease in pain was three
- There were no RCTs comparing colchicine to other treatments of acute gout
- In the review discussion it was noted that there have been case reports suggesting lower doses (0.5 mg three times per day or less) may reduce the gastrointestinal side effects of colchicine,⁶ but there was no RCT evidence to support this

that will adequately treat acute gout, and to directly compare the efficacy and adverse effect profiles of NSAIDs and colchicine.

Conflict of interest: none declared.

Table 2. Putting evidence into practice**Case study 1**

Mr Squire, 50 years of age, is generally well, although somewhat overweight with a body mass index (BMI) of 29. He presents to you with acute onset of excruciating pain in his right great toe and a swollen and erythematous first metatarsophalangeal joint. The classic presentation makes you immediately suspicious of gout. You decide to check his serum uric acid, but in view of his pain levels and the classic gouty presentation, decide on pharmacological treatment without immediately performing other investigations.

What immediate treatment do you choose?

As he is generally well and has no contraindication to the use of NSAIDs you decide to commence indomethacin 50 mg orally three times per day and to review him in 48 hours. You consider the option of using colchicine, but in the absence of any evidence of greater efficacy for this drug and in view of its side effect profile, you decide that NSAIDs are the best choice at this point.

Case study 2

Mr Yee, aged 78 years, presents with classic gout affecting the great toe as described in Case 1. Mr Yee takes warfarin 3 mg/day for atrial fibrillation and his INR has been stable on this dose for some time. He is hypertensive on enalapril 20 mg in combination with hydrochlorothiazide 6 mg, and is a noninsulin dependent diabetic controlled by diet alone. His renal function is normal. Importantly, he is the prime carer for his infirm, elderly wife who is heavily reliant on him for her daily needs, making rapid relief of his excruciating pain very urgent. As in the previous case, in view of his pain levels and the classic gout presentation, you decide on pharmacological treatment without immediately performing other investigations.

What treatment do you consider in this case?

You are reluctant to use NSAIDs in view of Mr Yee's warfarin treatment and the concomitant increased risk of gastrointestinal bleeding with NSAID use. While oral corticosteroids are a possibility, Mr. Yee's warfarin therapy and NIDDM mean that there are potential problems with gastrointestinal bleeding, and with worsening glucose tolerance. Intra-articular injection of corticosteroids has an increased risk of joint haemorrhage in a patient on warfarin. Colchicine at the doses used in the RCT identified in the review produces gastrointestinal side effects that may further incapacitate Mr Yee and given his social situation this is not desirable. However, you note that lower doses have been used, although the evidence to support this is weak. You decide to discuss the options with Mr Yee so he is aware of his options, and recommend to him colchicine at a dose of 1.0 mg followed by 0.5 mg three times per day.

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