Paracetamol is ineffective for lower back pain

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Tylenol 500 mg capsules. Credit: Wikipedia

Paracetamol is not effective in the treatment of spinal pain and provides negligible benefits for osteoarthritis, according to a study published in *The BMJ* today.

Spinal pain, which includes neck and lower back pain, and osteoarthritis,

the most common form of arthritis, are leading causes of disability worldwide.

Clinical guidelines recommend paracetamol as the first line drug treatment for both conditions, but the evidence to support this recommendation is weak and inconsistent and there are safety concerns with the recommended full dosage (up to 4000 mg/day).

For these reasons, the recent move by the National Institute for Health and Care Excellence (NICE) to continue to recommend paracetamol for osteoarthritis has been considered controversial.

Lead author Gustavo Machado from The George Institute for Global Health at the University of Sydney carried out a systematic review and meta-analysis to examine the efficacy and safety of paracetamol for lower back pain and osteoarthritis of the hip or knee.

The study included 13 randomised controlled studies that looked at the effects of paracetamol use compared with a placebo: 10 trials included 3,541 patients and evaluated the use of paracetamol for osteoarthritis of the hip or knee, and 3 trials included 1,825 patients on the use of paracetamol for lower back pain.

The following outcomes were analysed: reduction of pain intensity and improvement of disability and quality of life as well as safety and patient adherence.

The study showed that for lower back pain, paracetamol had no effect and did not reduce disability or improve quality of life compared with the use of a placebo. For osteoarthritis, they found small, but not clinically important benefits in the reduction of pain and disability compared with the use of a placebo.

Paracetamol use for osteoarthritis was also shown to increase the likelihood of having abnormal results on liver function tests by almost four times compared with a placebo, but the clinical relevance of this is still not certain, explain the authors.

Adverse side effects varied across all of the trials, but no differences were found in terms of the number of patients using paracetamol reporting these or being withdrawn from studies due to adverse events compared to those using a placebo.

Similarly, adherence to treatment schedule rates were similar between those taking paracetamol compared with those using a placebo.

The trials evaluated paracetamol and placebo usage in the short term, with the longest follow-up being 6 months so more research is needed to determine effects over a longer period of time.

Nevertheless, the authors conclude that "these results support the reconsideration of recommendations to use paracetamol for patients with low back pain and osteoarthritis of the hip or knee in clinical practice guidelines."

In a linked editorial, Christian Mallen and Elaine Hay from Keele University write that this latest study "re-opens the debate" on the effectiveness and safety of paracetamol.

They explain that if paracetamol is taken off existing guidelines this will lead to an increase in the use other prescribed drugs, such as, opioids, and this will present new associated health problems.

Instead, they call for the use of safe and effective alternative treatments, especially non-drug options, such as exercise, which has clear benefits in the management of spinal pain and osteoarthritis.

More information: Research article: Efficacy and safety of paracetamol for spinal pain and osteoarthritis: systematic review and meta analysis of randomised placebo controlled trials, www.bmj.com/lookup/doi/10.1136/bmj.h1225

Editorial: Managing back pain and osteoarthritis without paracetamol, www.bmj.com/lookup/doi/10.1136/bmj.h1352

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