Paracetamol may be ineffective in treating lower back pain.

This systematic review found that paracetamol as a first-line treatment did not reduce pain, disability, or improve quality of life in the short-term (up to 8 weeks) for people with low back pain. There was a very small effect in reducing pain and disability in the short-term for people with osteoarthritis of the hip or knee. There is ongoing debate about the safety and effectiveness of paracetamol for treating back and osteoarthritic pain. The back pain findings were based on a small number of studies looking at different types of back pain. They will probably be included in a review of current clinical guidelines, due for publication in 2016.

“This systematic review highlights that short-term use of historically-accepted paracetamol is not effective for the major causes of musculoskeletal pain, i.e. back and osteoarthritis pain. This confirms the Osteoarthritis Research Society International (OARSI) guidelines from 2010 on efficacy of paracetamol in osteoarthritis. The relative paucity of clinical studies, in an area of huge concern for ageing populations with increasing burden of joint pain, is also evident. Given that the other analgesics for joint pain (NSAIDs and opioids) have significant side-effects and contraindications, there is an urgent need to replace community expectations of pharmacotherapies with concepts of muscle strengthening, increased activity and weight loss if appropriate.

- Professor Philip Conaghan,
Professor of Musculoskeletal Medicine, University of Leeds & Deputy Director,
NIHR Leeds Musculoskeletal Biomedical Research Unit
WHY WAS THIS STUDY NEEDED?

Low back and neck pain, and pain due to osteoarthritis of the knee or hip are leading global causes of disability. Paracetamol is recommended as a first-line treatment in UK guidelines for these conditions, but there remains controversy about its use. Some evidence suggests that very high doses may be required to reduce pain levels, which may lead to adverse effects such as liver damage. Although a low cost medicine, the high volume use means that the NHS spends over £80 million each year on prescriptions for paracetamol. This systematic review set out to investigate the effectiveness and safety of paracetamol for these conditions.

WHAT DID THIS STUDY DO?

This was a systematic review of 13 randomised controlled trials comparing paracetamol with placebo treatment for low back or neck pain, and osteoarthritis-related hip or knee pain. The systematic review was designed to a high methodological standard, including various quality assurance measures, and included high quality studies to produce reliable results. Study results were pooled to answer different questions using meta-analyses, though for some outcomes meta-analyses only included two or three studies. Scores for pain and disability were standardised across the studies to a range of 0 (no pain or disability) to 100 (worse pain or disability), measured in the immediate term (within one week), short-term (up to 8 weeks) and long term (12 months).

WHAT DID IT FIND?

- Paracetamol had a small effect on immediate pain relief in osteoarthritis (weighted mean difference 3.3, 95% confidence interval [CI] 5.8 to 0.8), short-term pain relief (weighted mean difference 3.7, 95% CI 5.5 to 1.9), and on disability in the short-term (weighted mean difference 2.9, 95% CI 4.9 to 0.9). As these differences were on the scale of 0 to 100, the authors suggest they were too small to be important to either the person with pain or clinicians. There was no immediate effect on disability.
- There was no effect for paracetamol in the immediate or short-term for pain relief or disability for low back pain. No trials investigating neck pain were identified in this systematic review.
- There was no difference between groups taking paracetamol or placebo in terms of adverse events. However, people with osteoarthritis taking paracetamol were nearly four times as likely to have abnormal liver function tests than those taking placebo (risk ratio 3.8, 95% CI 1.9 to 7.4), although the clinical importance of this was unclear.

WHAT DOES CURRENT GUIDANCE SAY ON THIS ISSUE?

The NICE guideline on osteoarthritis recommends paracetamol for first-line pain relief ‘in addition to core treatments’ such as strengthening exercises. The NICE guideline on low back pain recommends that paracetamol is used as the first treatment option for pain. This guideline is currently under review, due for publication in 2016. There is no NICE guideline on neck pain, but Clinical Knowledge Summaries recommend paracetamol for the treatment of non-specific neck pain in primary care.

WHAT ARE THE IMPLICATIONS?

This review suggests that current practice of using paracetamol as the first-line treatment to relieve pain in those with low back pain or pain from knee or hip osteoarthritis has limited benefit and potential harmful effect on liver function.

However, there are limitations to this evidence, especially for people with low back pain. The three high quality studies looked at different outcomes and groups of people with back pain, which makes the findings hard to apply. One was a small study looking at the effectiveness of paracetamol for people who had already been on strong painkillers for at least six months. The second looked at the use of paracetamol in the first four days of back pain and the third measured the speed of “recovery” (defined as a low pain score for 7 consecutive days) rather than pain relief directly.
Therefore the review does not show that paracetamol is ineffective for all types of people with low back pain or osteoarthritis. Clinicians will continue to monitor patients taking paracetamol to ensure that they are receiving adequate pain relief. Others have also pointed to the adverse effects associated with alternative forms of medication, such as opioids and non-steroidal anti-inflammatories. The authors recommend considering alternatives such as strengthening exercises for lower limb arthritis as these have been shown to be effective.

DEFINITIONS

The review authors discuss a recent systematic review showing a large treatment effect for exercise for people with lower limb arthritis, much larger than the effect size in their meta-analysis of paracetamol alone. As a result they say that paracetamol may not be effective as a stand-alone treatment but should be used alongside therapies such as exercise.

Current NICE guidelines for lower back pain and osteoarthritis, and Clinical Knowledge Summaries guidance on neck pain all recommend exercise to alleviate symptoms such as pain and improve functionality. The review authors suggest that future trials should not investigate these treatments in isolation, but in combination where they are likely to be more effective.

CITATION


BIBLIOGRAPHY


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