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More isn't better with acute low back pain treatment

Adding cyclobenzaprine or oxycodone/acetaminophen to naproxen for the treatment of acute low back pain does nothing more than increase adverse effects.

PRACTICE CHANGER

Consider treating patients with acute low back pain with naproxen only, as adding cyclobenzaprine or oxycodone/acetaminophen to scheduled naproxen does not improve functional assessment at 7 days or 3 months and increases adverse effects.

STRENGTH OF RECOMMENDATION

B: Based on a high-quality, randomized controlled trial (RCT).[1]

Friedman BW, Dym AA, Davitt M, et al. Naproxen with cyclobenzaprine, oxycodone/acetaminophen, or placebo for treating acute low back pain: a randomized clinical trial. *JAMA*. 2015;314:1572-1580.

ILLUSTRATIVE CASE

A 46-year-old man presents to the emergency department (ED) with low back pain (LBP) after helping a friend move a couch 3 days earlier. He denies any direct trauma to his back and describes the pain as a spasm in his lumbar spinal region with no radicular symptoms. The pain worsens with prolonged standing and any position changes. He has tried acetaminophen with no benefit. You diagnose a lumbar muscular strain. What medications should you prescribe to help relieve his LBP and improve his overall function?

Acute LBP prompts close to 2.7 million ED visits annually in the United States.[2] It leads to persistent subjective impairment and continued analgesic usage at 7 days (impairment 70%, analgesic use 69%) and at 3 months (48% and 46%, respectively) after ED discharge.[3] Systematic reviews show that monotherapy with nonsteroidal anti-inflammatory drugs (NSAIDs) or muscle relaxers is better than placebo for relieving pain.[4,5] A secondary analysis of patients (N=715) from a prospective cohort study showed that patients prescribed opiates for LBP had worse functioning at 6 months than those not prescribed opiates.[6]

Monotherapy or combination therapy for LBP? That is the question

Because medications used for LBP have different mechanisms of action, clinicians frequently combine them in an attempt to improve symptoms and function.[2] Current evidence evaluating combination therapy demonstrates mixed results. A large RCT (N=867) showed that the combination of cyclobenzaprine and ibuprofen led to lower subjective pain intensity, but did not result in self-reported pain improvement (based on answers to the Patient Global Impression of Change and the Oswestry Disability Index) than cyclobenzaprine alone. However, a small RCT (N=40) combining naproxen with cyclobenzaprine demonstrated improved LBP and spasm compared to naproxen alone.[7,8]

This study sought to determine the benefit of treating acute LBP with cyclobenzaprine or oxycodone/acetaminophen in combination with an NSAID compared to treatment with an NSAID alone.

STUDY SUMMARY

Adding second pain reliever to the NSAID provided no significant benefit

This double-blinded RCT enrolled 323 adult patients presenting to an ED with ≤2 weeks of nontraumatic, nonradicular LBP, which was defined as pain between the lower border of the scapulae and the upper gluteal folds.[1] Participants had a score of >5 on the Roland-Morris Disability Questionnaire (RMDQ), which measures functional impairment due to LBP (range: 0-24). Patients were excluded if they had radicular pain radiating below the gluteal folds, direct trauma to the back within the previous month, pain duration >2 weeks, or a recent history of >1 LBP episode per month. Patients with current or past chronic opioid use were also excluded.

All participants received 10 days' worth of naproxen (500 mg twice daily). They were then randomized to receive either: oxycodone 5 mg/acetaminophen 325 mg; cyclobenzaprine 5 mg; or placebo, with instructions to take one to 2 tablets prn every 8 hours for 10 days. They were told that if one tablet afforded sufficient relief, there was no need to take the second one, but if the first tablet did not provide relief within 30 minutes, they should take the second one. All patients also received a 10-minute educational session emphasizing the role of exercise, stretching, physical/massage therapy, and other non-pharmacologic interventions.

The primary outcome was change in the RMDQ between ED discharge and a phone call 7 days later, with a 5-point improvement in the RMDQ considered clinically significant. Secondary outcomes at 7 days and 3 months after ED discharge included subjective description of worst pain, frequency of LBP pain, frequency of analgesic use, satisfaction with treatment, median number of days to return to work and usual activities, need for follow-up health care visits, and opioid use. Investigators also asked about any adverse effects at 7 days and 3 months.

At 7 days, patients randomized to naproxen plus placebo improved on reported RMDQ scores by a mean of 9.8 points, naproxen plus cyclobenzaprine by 10.1 points, and naproxen plus oxycodone/acetaminophen by 11.1 points. Between group differences in mean RMDQ changes showed no statistically significant differences with placebo vs cyclobenzaprine (0.3 points; *P*=.77), placebo vs oxycodone/acetaminophen (1.3 points; *P*=.28), and cyclobenzaprine vs oxycodone/acetaminophen (0.9 points; *P*=.45).

Secondary outcomes. At 7 days, there was no significant difference between study groups in subjective pain assessment, frequency of LBP, or use of as-needed medications in the prior 24 hours. There was also no difference in the median number of days to return to work or need for follow-up health care visits. In patients who took more than one dose of the study medication, those who took oxycodone/acetaminophen were more likely to describe their worst pain in the last 24 hours as mild/none when compared to those taking placebo (number needed to treat [NNT]=6). About 72% of all subjects reported that they would choose the same treatment option again, with no difference between groups. At 3 months, no difference existed between groups in subjective pain assessment, frequency of LBP, use of as-needed medications, or opioid use during the previous 72 hours.

Adverse effects, including drowsiness, dizziness, stomach irritation, and nausea or vomiting, were more common in the oxycodone/acetaminophen and cyclobenzaprine treatment groups with a number needed to harm (NNH) of 5.3 and 7.8, respectively.

At 7 days, there was no significant difference between study groups in subjective pain assessment, frequency of low back pain, or use of as-needed medications in the previous 24 hours.

WHAT'S NEW

A second pain reliever adds nothing—except adverse effects

This RCT found that adding cyclobenzaprine or oxycodone/acetaminophen to naproxen for the treatment of nontraumatic, nonradicular acute LBP did not significantly improve functional assessment based on RMDQ scores or pain measures at 7 days or 3 months after the initial ED visit. It did, however, increase adverse effects.

CAVEATS

Researchers studied a specific subset of patients

This study was performed in a single-site ur-

ban ED and included a very specific subset of LBP patients, which limits the generalizability of the results. However, patients often present to their primary care physician with similar LBP complaints, and the results of the study should reasonably apply to other settings.

The findings may not generalize to all NSAIDs, but there is no evidence to suggest that other NSAIDs would behave differently when combined with cyclobenzaprine or oxycodone/acetaminophen. In this intention-to-treat analysis, only about one-third of patients used the as-needed medication more than once daily; about another third of patients used the as-needed medication intermittently or never.

CHALLENGES TO IMPLEMENTATION

Patients may expect more than an NSAID for their back pain

Patients expect to receive prescriptions, and physicians are inclined to write them if they believe they will help their patients. The evidence, however, does not show a benefit to these prescription-only medications for low back pain. JFP

ACKNOWLEDGEMENT

The PURLs Surveillance System was supported in part by Grant Number UL1RR024999 from the National Center For Research Resources, a Clinical Translational Science Award to the University of Chicago. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Center For Research Resources or the National Institutes of Health.

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