CHANGES IN PAIN, FUNCTION, AND OTHER PATIENT OUTCOMES WITH A TOPICAL ANALGESIC PAIN-RELIEVING PATCH

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Intro

Evaluation of effective treatments for pain relief, including topical analgesic patches, is critical to identify safer opioid-sparing approaches to pain treatment.

Topical analgesic patches target medication to peripheral sites of pain while potentially avoiding adverse effects associated with systemic medications. Opioids, prescription nonsteroidal anti-inflammatory drugs, and over-the-counter oral medications are associated with systemic toxicities, increasing morbidity and mortality. This study evaluated a topical analgesic pain-relieving patch in reducing pain severity and improving function in patients with mild to moderate arthritic, neurological, or musculoskeletal pain.

Methods

This IRB-approved study evaluated the efficacy of a topical pain-relieving patch containing methyl salicylate 10%, menthol 6% and camphor 3.1% in reducing Brief Pain Inventory (BPI) scores in patients experiencing mild/moderate acute pain. 152 adult patients (100 females, 52 males) with acute arthritic, neurologic or musculoskeletal pain received patches for 14 days. A control group of an additional 47 patients (27 females, 20 males) did not receive a patch. Surveys were administered to all patients at baseline and 14 days to assess changes in pain severity and interference by BPI Short Form. Changes in oral pain medication use, side effects and satisfaction with patch use were also assessed.

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Results

Treatment group paired data were collected in both active and control groups. Over 14 days, treatment group mean BPI Severity score decreased 49% (4.9 to 2.5/10;P<.001, 95% CI [2.09, 2.58]) see Figure 1A and mean BPI Interference score decreased 58% (4.3 to 1.8/10;P<.001, 95% CI [2.33, 2.82]) see Figure 1B. Decreases in mean BPI Severity and Interference scores were significantly less in the control group (13%, 15% respectively). No side effects of treatment were reported. The total number of patients taking OTC pain medication at baseline in the CG was 22 (46.8%) while in the TG it was 92 (60.5%). There was no change in OTC pain medication within the CG; the 22 patients who reported use at baseline also reported use at day 14 (see Figure 2A). OTC pain medication use decreased by 29.3% in the TG, decreasing from 92 patients (60.5%) to 65 patients (42.8%), see Figure 2B. At day 14, 61% of the treatment group were using concomitant oral pain medications "a lot less." 90% were very/extremely satisfied with the patch. Thirty-four (34) patients who crossed-over from the Control Group showed similar reductions in pain severity and interference scores after patch treatment.

FIGURE 1
Severity and Interference Scores

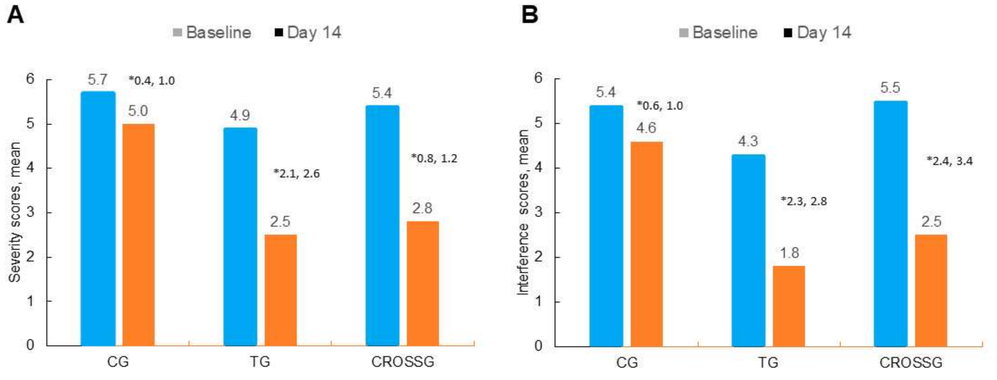
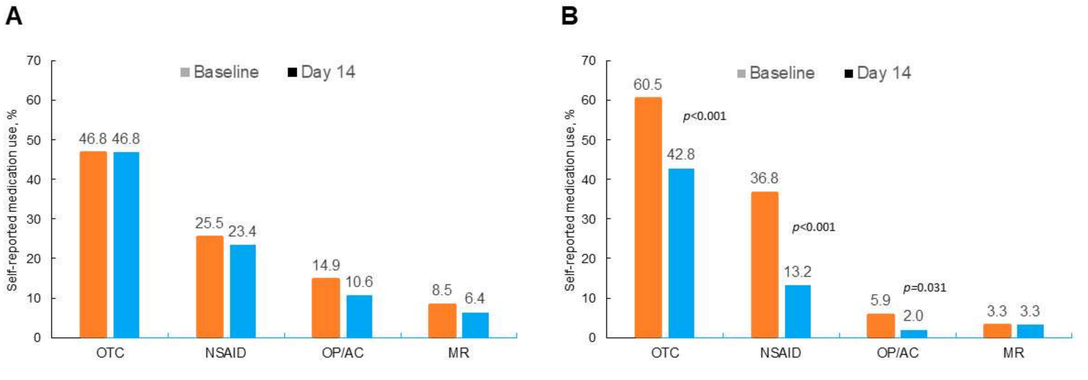


Figure 1 Baseline and day 14 overall mean (A) severity and (B) interference scores within the control, treatment, and crossover groups. *95% Confidence Interval of the difference, paired t-test. Each difference is statistically significant. Abbreviations: CG, control group; TG, treatment group; CROSSG, crossover group.

FIGURE 2
Change in Medication Usage



Percent using each type of pain medication at baseline and day 14 within the control (A), and treatment (B) groups. Abbreviations: OTC, over-the-counter; NSAID, nonsteroidal anti-inflammatory drug; OP, opioid; AC, anticonvulsant; MR, muscle relaxant.

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Conclusions

Results indicate that this topical analgesic pain-relieving patch can reduce BPI scores for adult patients with arthritic, neurologic and musculoskeletal pain and support the use of this analgesic pain-relieving patch as a firstline treatment. Topical analgesics, such as this pain-relieving patch, should be considered for future pain management guidelines as part of multimodal pain treatment regimens.

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