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Transdermal Lidocaine for Perioperative Pain: a Systematic Review of the Literature

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Introduction: Recent data have shown that the risk of taking chronic opioids after surgery increases after about 5 days of postoperative opioid therapy. Alternatives to opioids are desirable, and transdermal lidocaine is one such perioperative multimodal agent. This review provides a summary of the perioperative studies that have examined transdermal lidocaine as an analgesic in the perioperative period.

Methods: We conducted searches of PubMed and Scopus databases. Studies involving patients who were undergoing surgery and were given either transdermal lidocaine, placebo, or active comparator in the perioperative period with the primary endpoint of improvement in pain were included in the analysis. Only randomized controlled trails were included.

Results: Overall, five out of the seven studies reported lower pain ratings in the lidocaine group compared to placebo. Three out of the four studies that used the mean visual analog scale (VAS) as primary endpoint reported that transdermal lidocaine decreased postoperative pain ratings at rest, which remained reduced for 6 h, 24, and 72 h. In four studies, there was no difference in opioid consumption between treatment and placebo groups.

Discussion: This review demonstrates that transdermal lidocaine may provide a modest improvement in pain ratings in the perioperative period, but the number of studies was limited and the duration of benefit is limited. Although five out of seven studies showed a decrease in pain ratings with transdermal lidocaine, this reduction was typically only observed at rest and often did not translate to decreased opioid consumption, making the overall clinical benefit questionable.