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Postoperative transcutaneous electrical nerve stimulation (TENS) in shoulder surgery (randomized, double blind, placebo controlled pilot trial

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BACKGROUND: The aim of this study was to determine whether 3 days of TENS therapy postoperatively after shoulder operations would result in better pain relief and/or reduced analgesic intake when compared to placebo. METHOD: The study was carried out randomized, double-blind and placebo controlled. Thirty patients were randomized to two groups. The verum group received TENS SM1AKS 80 Hz 6 mA and the placebo group received TENS SM1AKS 80 Hz 0 mA. The pain was assessed pre-operatively using the Hamburg Pain Adjective List. Premedication and Anaesthesia were standardized. TENS was applied to the patients immediately postoperatively for 8 hours and then on the following days 5 times daily for 45 minutes. The effectiveness was evaluated postoperatively using a visual analogue scale (rest, activity), the Hamburg Pain Adjective List and postoperative analgesic consumption. RESULTS: The visual analogue scale at rest and on activity showed no significant difference between the groups. Postoperative analgesic consumption of morphine hydrochloride in the first 24 hours was at time 8 hours postoperative significantly and at all other time points markedly less in the verum group compared to the placebo group. The sensory secondary scale score of the "Hamburg Pain Adjective List" was significantly lower postoperatively compared to preoperatively in the verum group.
CONCLUSION: We were able to show in this study that TENS applied postoperatively after shoulder surgery clearly reduced analgesic consumption in the first 72 hours. Furthermore there was a significant difference in the pain scores using the "Hamburg Pain Adjective List" in favour of the verum group. TENS applied postoperatively is a effective, simple modality with few side-effects.

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