

Methylprednisolone Taper is an Effective Addition to Multimodal Pain Regimens after Total Shoulder Arthroplasty: Results of a Randomized Controlled Trial

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INTRODUCTION: Perioperative corticosteroids are promising as a non-opioid analgesic adjunct for various orthopaedic pathologies, but have not been well investigated after total shoulder arthroplasty (TSA). Thus, the purpose was to assess the impact of a methylprednisolone taper on a multimodal pain regimen after TSA.

METHODS: This study is a randomized control trial of a group of opioid naïve patients undergoing TSA. Patients were randomly assigned at the time of surgery to receive intraoperative dexamethasone only (control group) or intraoperative dexamethasone followed by a 6-day oral methylprednisolone taper course (treatment group). Visual analog pain scores (VAS-pain), VAS-nausea, and number of opioid tablets consumed during the first 7 postoperative days were recorded.

RESULTS: Overall, there were 67 patients enrolled in the study, including 32 in the control group and 35 in the treatment group. There was a reduction in the mean VAS pain scores and in cumulative oxycodone tablet consumption (control group = mean of 18 pills vs. treatment group = 4.2 pills) in the first postoperative week. Patients also had less opioid-related side effects, including nausea, within this first postoperative week. Although there was an improvement in VAS pain score in the treatment group at 2 weeks postoperatively, there were no differences at 6 weeks, 12 weeks, or at final follow up. There were no differences in EQOL, shoulder SANE, or ASES scores at 2 weeks, 6 weeks, or 12 weeks postoperatively, or at final follow up, between the groups. At a follow up of 23.4 (12-39) months in the control group and 19.4 (12-37) months in the treatment group, there was 1 infection in the control group and 1 postoperative cubital tunnel in the treatment group.

DISCUSSION AND CONCLUSION: A methylprednisolone taper course shows promise in reducing acute pain and opioid consumption as part of a multimodal regimen following TSA.

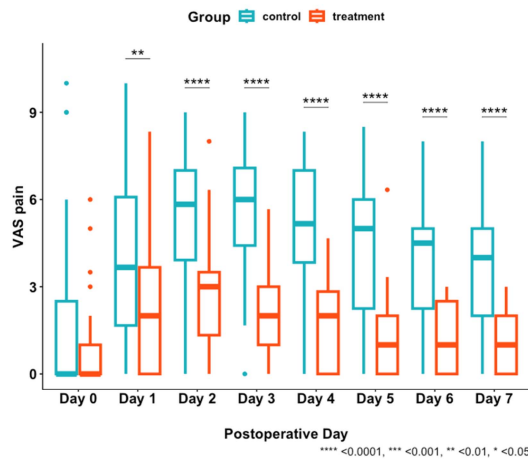


Figure 1: Box and whisker plots demonstrating VAS pain scores between methylprednisolone taper (treatment) and no taper (control) from day 0 to day 7. Box represents interquartile range (IQR) (75th, 50th (median) and 25th percentile), whiskers represent largest value within 1.5 times IQR above the 75th or below the 25th percentile respectively. Dots represent individual outliers.