Paravertebral Regional Blockade is Associated with Reduced Opioid Requirements and Less Post-operative Nausea and Vomiting in Reduction Mammaplasty

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Purpose: We evaluate the safety and effectiveness of paravertebral block (PVB) as an adjunct to general anesthesia (GA) for reduction mammaplasty.

Methods: Patients from 2011-2015 who underwent reduction mammaplasty were examined by anesthesia modality: GA alone and GA+ PVB adjunct. Demographic data, intra-operative and 6 hour post-operative opioid requirements, phase 1 and 2 pain scores, post-operative nausea and vomiting (PONV), and total anesthesia time were collected. and analyzed with contingency tables and comparisons of means and medians for categorical and continuous variables, respectively.

Results: We identified 264 patients who underwent reduction mammaplasty. Of these, 209 received GA alone and 55 received GA + PVB adjunct. Intra-operative opioid requirements were lower for those receiving PVB compared to GA alone (mean morphine equivalent doses of 44mg versus 35 mg, $p<0.05$). There was no difference in post-operative opioid requirements (mean doses of 30 versus 29 mg, $p>0.05$). Phase 1 pain scores were significantly lower for those receiving PVB compared to GA alone (mean 2.8 vs. 3.9, $p<0.05$), as were phase 2 scores (mean 3.0 vs 4.2, $p<0.05$). PVB was associated with considerably less PONV (14% versus 33%, $p<0.05$). PVB was associated with higher mean anesthetic time compared to GA alone (271 minutes vs 236 minutes; $p<0.05$). There were no anesthetic complications in the PVB group.

Conclusions: By mitigating factors known to be associated with unplanned hospital admission and poor patient satisfaction, paravertebral regional blockade is an attractive anesthetic adjunct to breast surgery, particularly in the ambulatory setting.