Transversus Abdominis Plane (TAP) Infiltration vs. Surgical Infiltration of Local Anesthetic in Laparoscopic and Robotic assisted Hysterectomy

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Background: Regional pain control following laparoscopic and robotic assisted hysterectomy is usually accomplished with either a transversus abdominis plane (TAP) block or surgical infiltration (SI) of local anesthetic directly into the surgical site. Both methods of analgesia have been shown to be effective, but the two methods have never been directly compared to one another.

Methods: In this double-blinded approach 62 patients were randomized to either TAP block or SI and results compared during the first 72 hours following surgery. The TAP block contained 10 mL of 0.25% bupivacaine with epinephrine followed by 20 mL of 50:50 liposomal bupivacaine and normal saline. For those receiving SI, 10 mL of 0.25% bupivacaine was injected at the surgical site.

Results: TAP blocks showed a statistically significant reduction in total opioid use over the first 72 hours when compared to SI of local anesthetic (Median 20.8 OME for TAP block, Median 25.0 OME for infiltration, P=0.034). Secondary outcomes include pain intensity, length of hospital stay, nausea/vomiting, and patient satisfaction with pain control.

Conclusions: Our results suggest that a TAP block with liposomal bupivacaine is a superior method of pain control when compared to SI of bupivacaine, and can be used to reduce total opioid consumption following laparoscopic and robotic assisted hysterectomy.