

PAIN MEDICINE

October 19-20, 2017 San Francisco, USA

Efficacy of ultrasound-guided oblique subcostal transversus abdominis plane block after laparoscopic sleeve gastrectomy: A double blind, randomized, placebo controlled study

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Introduction: Pain control in the morbidly obese can be especially challenging because of increased sensitivity to opioid-induced respiratory depression. The subcostal transversus abdominis plane block is associated with a large area of spread (T7-L1).

Aim: The aim of the study was to test the hypothesis that US-guided TAP blocks can reduce opioid consumption during the first 24 h after of laparoscopic sleeve gastrectomy in comparison with port site local anesthetic infiltration and systemic analgesia.

Materials & Methods: Sixty-three ASA II/III adult patients listed for elective laparoscopic sleeve gastrectomy were randomly allocated in one of three groups: Group I (OSTAP) received bilateral OSTAP block. Group II (Local) received local anesthetic infiltration at trocar port sites. Group III (Control) placebo group received TAP block and port site infiltration by same volumes of sterile normal saline. Twenty-four hours postoperative morphine consumption, the dose of fentanyl (μg) required during surgery, equivalent morphine dose in the recovery unit (PACU) and first morphine dose were recorded. The quality of analgesia is assessed by Visual Analogue Scale for 24 h at rest and movement.

Results: The mean opioid consumptions in PACU showed significant difference between the three groups, $P=0.02$. The mean 24 h morphine consumption showed statistically significant difference between groups (P value <0.001). Significant differences were found between both OSTAP and local groups with control group ($P<0.001$) and also between OSTAP and Local groups ($P=0.02$). Pain score of OSTAP group was significantly lower than local infiltration group at 6 and 4 h at rest and movement, respectively. OSTAP group had faster extubation time than other groups. Postoperative nausea and vomiting were not significant between groups. No signs or symptoms of local anesthetic systemic toxicity or complications were detected.

Conclusion: Oblique subcostal TAP block is a good alternative for providing analgesia during the postoperative period. The block is easily performed using ultrasound guidance. It is safe, provides effective analgesia with significant morphine-sparing effect with reduced side-effects of opioids.

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