

JOINT EVENT

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## Perioperative intravenous lidocaine is as effective as thoracic epidural analgesia on postoperative pain and lung function following upper abdominal surgery

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**Introduction:** Postoperative pain following open abdominal surgeries could cause a restrictive respiratory dysfunction, which is associated with poor postoperative outcomes. Thoracic epidural analgesia provides solid pain control; however, it can lead to complications, has some contraindications, and occasionally fails. Intravenous lidocaine infusion has been suggested as an alternative due to its anti-nociceptive and anti-inflammatory properties. This trial aimed at comparing perioperative intravenous lidocaine infusion with thoracic epidural analgesia for open abdominal surgery with regard to postoperative pain, opioid consumption and respiratory function.

**Methods:** scheduled for upper abdominal surgery were randomly allocated into two groups. Intravenous lidocaine groups received 1.5 mg/kg IV bolus before induction, then intraoperative IV infusion of 2–3 mg/min and then reduced postoperatively to 0.5–1 mg/min. The thoracic epidural group received bupivacaine 0.125% epidural infusion of 5–8 ml/hour intraoperatively, and then reduced postoperatively to 4–5 ml/hour. The infusions in both groups continued for 24 hours postoperatively.

**Results:** Sixty-nine patients (35 in the lidocaine group and 34 in the epidural group) were analyzed. There was not a statistically significant difference between the two groups with respect to the verbal numeric rating scale measured at rest at the 4<sup>th</sup>, 8<sup>th</sup>, 12<sup>th</sup> or 24<sup>th</sup> hours postoperatively, with ambulation ( $P=0.163$ ) or coughing ( $P=0.079$ ). Opioid consumption in the first postoperative day showed no statistically significant difference ( $P=0.356$ ). Postoperative lung function (FVC–forced vital capacity, FEV1– forced expiratory volume in one second, and PEF–peak expiratory flow) showed slightly lower values than the preoperative ones in both groups. However, there was no statistically significant difference between the two groups as regard to postoperative FVC ( $P=0.560$ ), FEV1 ( $P=0.657$ ) or PEF ( $P=0.167$ ).

**Conclusions:** Intravenous lidocaine infusion provides postoperative analgesia comparable to that of thoracic epidural analgesia for upper abdominal surgery with opioid sparing properties.

### Biography

Asmaa Moatasem has completed her Master's Degree from Assiut University, Egypt. She has a Fellowship in Pain Management at the University of Würzburg, Germany. She completed the European Diploma in Anaesthesiology and Intensive Care in 2015, and her PhD from Assiut University, Egypt. She is a Consultant of Anesthesia, Intensive Care and Pain Management at Assiut University, Egypt.

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