

JOINT EVENT

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## Analgesic effect of ketamine versus dexmedetomidine when added to epidural bupivacaine for abdominal hysterectomy: a double blinded, randomized controlled trial

Sohair Adeeb Megalla, Ibrahim A Youssef and Naira A Mohamed  
El Minia University, Egypt

**Aim:** Evaluate the analgesic effect of ketamine and dexmedetomidine when added to epidural bupivacaine for abdominal hysterectomy.

**Patients & Methods:** Seventy five ASA physical status I and II females, aged 35–70 years scheduled for elective abdominal hysterectomy were randomized into three groups. All patients received epidural anesthesia with 15 ml of 0.5% bupivacaine+1 ml of the study solution. We added saline (C group), 0.5 µg/kg dexmedetomidine (D group) or 50 mg ketamine hydrochloride (K group). Sensory, motor block characteristics, intraoperative supplemental analgesia or sedation, hemodynamic changes, first analgesic request and complications were assessed.

**Results:** Dexmedetomidine showed significantly earlier onset of sensory analgesia, time to maximum sensory blockade, time to complete motor blockade and consequently earlier start of surgery than ketamine and control group,  $p<0.001$ . Duration of analgesia was more prolonged in group D group K group C,  $p<0.001$ . Time to 1st analgesic request was  $5.1\pm1.1$  hr,  $4.04\pm1.6$  hr,  $2.7\pm0.6$  hr for Group D, K, C respectively. Higher percentage of patients requiring intraoperative supplementation especially during the time of cervical manipulation was greatest in group C (88%) compared to 32% in group K and 16% in group D,  $p<0.001$ . Ketamine provided better control of blood pressure and heart rate. Dexmedetomidine showed reduction in heart rate at all times ( $p<0.001$ ) compared to groups K and C, but not requiring atropine. Sedation was evident in group D; 40% Ramsey grade 3 sedation. Hallucination was the outstanding feature in K group (44%) compared to 0% in other groups. Shivering was more in C group 44%, 36% and 12% in groups K and D  $p<0.023$ . Intraoperative nausea and vomiting was more in D group; occurred in seven patients compared to one in K group and none in B group.

**Conclusion:** Dexmedetomidine was a better choice than ketamine as an epidural adjuvant due to its potentiating effect on sensory and motor blockade, providing better intraoperative conditions including sedation and prolonged postoperative analgesia.

### Recent Publications

1. Megalla S A and Mansour H S (2017) Dexmedetomidine versus nalbuphine for treatment of postspinal shivering in patients undergoing vaginal hysterectomy: A randomized, double blind, controlled study. *Egyptian Journal of Anaesthesia*. 33:47–52.
2. Ibrahim I T, Megalla S A, Khalifa O S M and Salah el Deen H M (2014) Prophylactic vs. therapeutic magnesium sulfate for shivering during spinal anesthesia. *Egyptian Journal of Anaesthesia* 30:31–37.
3. Habib A S, George R B, McKeen D M, White W D, Ituk U S, et al. (2013) Antiemetics added to phenylephrine infusion during cesarean delivery. a randomized controlled trial. *Obstetrics & Gynecology* 121:615–23.
4. McQueen-Shadfar A A, Megalla S A, White W D, Olufolabi A J, Jones C A, et al. (2011) Impact of intraoperative dexmedetomidine on postoperative analgesia following gynecologic surgery. *Current Medical Research and Opinion* 27(11):2091–97.
5. Mccarthy G C, Megalla S A and Habib A S (2010) Impact of intravenous lidocaine infusion on postoperative analgesia and recovery from surgery. *Drugs* 70(9):1149–63.

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**Biography**

Sohair Adeeb Megalla lecturer in Anesthesiology and Intensive Care Faculty of Medicine at El Minia University, Egypt. She hold both Masters and MD (Ph.D) degrees in clinical anesthesia. Received training as a research fellow at Duke University, North Carolina. Practiced clinical anesthesia for over 25 years. Fields of interest include obstetric anesthesia, perioperative pain relief among other fields of anesthesia, Critical Care Medicine, Intensive Care Medicine, Ventilation, Pain Management, and Anesthesiology.

sohairadeeb@yahoo.com