

PERIOPERATIVE INTRAVENOUS (I.V.) LIDOCAINE IN **LAPAROSCOPIC BARIATRIC SURGERY (LBS) IMPROVES QUALITY OF RECOVERY:** AN OBSERVATIONAL RETROSPECTIVE STUDY



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Background

As known in the literature, opioids, due to their breath-depressing effect, can be dangerous for obese patients, who often suffer from disorders such as obstructive sleep apnoea (OSA) and hypoventilation syndrome (OHS) (1.2.3).

At recommended doses (4,5), perioperative i.v. lidocaine is considered safe and effective in ensuring adequate pain control in patients undergoing laparoscopic bariatric surgery (LBS), without the aid of opioids (5,6).

The present observational retrospective study aims to address the feasibility of "opioid free anesthesia (OFA) with i.v. lidocaine, evaluating its safety and effectiveness in LBS.



Methods

Clinical data of all patients undergoing LBS at "L. Galmarini" Hospital (Tradate, Italy) between Jan 2021 and Dec 2022 were retrospectively collected (Table 1). We tested a protocol of "opioid free anesthesia" (OFA) using i.v. lidocaine (Figure 1).

All patients were evaluated in terms of postoperative pain control according to the "Numerical Rating Scale" (NRS). Adequate control of postoperative pain was considered reached with NRS ≤ 4 (24/48 hours).

Total patients

enrolled N = 156Gender, male/female 33/123 40.96 (min. BMI (kg/m2), mean, female 31.56; max. 54.11) 41.86 (min. 32.53; max. BMI (kg/m²), mean, male

In this retrospective observational study we enrolled 156 adult patients. No exclusion criteria were identified

INTRAOPERATIVE CARE

- · Adequate operating table with specific support
- Adequate peripheral vascular acce
- Multi-parametric monitoring for vital parameters (pulse oximetry, NIBP, continuous ECG, temperature)
- ABG

Equipment and

monitoring

Anaesthetic

management

- TOF/TOF ratio: depth of neuromuscular blockade
- BIS: depth of anaesthesia
- Ramped position for preoxygenation

Before induction of general anaesthesia Crystalloids

- · Prophylaxis of infection
- Antiacid prophylaxis (pantoprazole 40 mg)
- MgSO4 3 g + dexamethasone 8 mg + ketorolac 30 mg

Induction of general anaesthesia

- Lidocaine 100 mg/10 ml 1.5 mg/LBW
- Ketamine 50 mg/5 ml 0.2 mg/kg
- Propofol 1% 2 mg/TBW Rocuronium 100 mg/10 ml 1-1.2 mg/LBW

Maintenance of anaesthesia

- Lidocaine 400 mg/40 ml 1.5-3 mg/kg/h
- Sevoflurane (0.8-1 MAC)
- · Rocuronium (TOF 0, PTC 0-2)

Before extubation

- Paracetamol 1-2 g iv
- Ondansetron 4 mg iv Sugammadex 2 or 4 mg/TBW depending on the TOF ratio

POSTOPERATIVE CARE

Analgesia (NRS)

Early mobilization and physiotherapy

Alert criteria (NEWS model)

Appropriately extended DVT prophylaxis

Restart a C-PAP if yet in preoperative

> Prophylaxis and control of infections

Prevention and treatment of rhabdomyolysis

Figure 1. Perioperative management: our protocol of "opioid free anesthesia" (OFA) using i.v. lidocaine.

The protocol used ensured adequate anesthesia and pain control

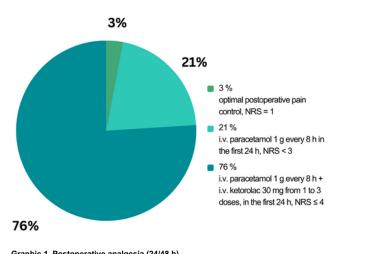
No adverse effects related to i.v. lidocaine were noted during the perioperative time.

Conclusions

Based on our experience and supported by the literature, we can state that the use of i.v. lidocaine in LBS seems to be safe and effective in reducing consumption of opioids, improving quality of recovery (5).

The results obtained (considering the advantages of an "opioid free anesthesia" (OFA), the easy and safe applicability of the protocol, and the reduced adverse effects associated with the use of i.v. lidocaine) encourage further studies.

The opioid sparing effect of systemic i.v. lidocaine could be a significant criterion to better investigate its efficacy for the applicability of "ERAS" (Enhanced Recovery After Surgery) protocols (7).



Graphic 1. Postoperative analgesia (24/48 h).

Neutrinos National Control of Schumann R. Special indications for Opioid Free Anaesthesia and Analgesia, patient and procedure related: Including obesity, sleep apnoea, chronico bstructive pulmonary disease, complex regional pain syndromes, opioid addiction and cancer surgery. Best Pract Res Clin Anaesthesia. 2017 Dec;31(4):547-560.

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