

[NM-307] A retrospective study comparing the peri-operative analgesic requirements in morbidly obese adolescents undergoing laparoscopic versus robotic assisted gastric sleeve resection

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Background

One of the major advantages for patients undergoing minimally invasive surgery as compared to an open surgical procedure is the improved recovery profile and decreased opioid requirements in the perioperative period 1,2. However, there are no definitive studies comparing the analgesic requirements in patients undergoing two different types of minimally invasive procedure –traditional laparoscopic surgery versus robotic- assisted laparoscopic surgery. This study retrospectively compares the intraoperative and postoperative analgesic requirements in morbidly obese adolescents undergoing laparoscopic versus robotic assisted laparoscopic gastric sleeve resection.

Methodology

With Institutional Review Board approval, the medication administration records of all morbidly obese patients who underwent gastric sleeve resection at Nationwide Children’s Hospital were retrospectively reviewed. Intraoperative analgesic and adjuvant medications administered, postoperative analgesic requirements and visual analog pain scores were recorded. The opioid analgesics administered were converted to morphine equivalents. A comparative analysis was performed using nonparametric Wilcoxon two-sample test.

Results

This retrospective study included a total of 28 patients who underwent gastric sleeve resection surgery with 14 patients in the laparoscopic group and 14 patients in the robotic assisted group. Analysis between groups demonstrated no difference in relation to age, gender and BMI. Intraoperative adjuvant administration of both intravenous acetaminophen and ketorolac was similar in both groups. Patients in the robotic group required significantly less opioid during the intraoperative period 0.15 ± 0.08 mg/kg morphine as compared to patients in the laparoscopic group 0.19 ± 0.06 mg/kg ($p= 0.024$). Cumulative opioid requirement for the first 72 postoperative hours was similar in both the groups (0.64 ± 0.25 mg/kg in the laparoscopic versus 0.68 ± 0.27 mg/kg in the robotic group, $p= NS$). The average pain scores in the postoperative period was also similar (3.7 ± 1.26 in the laparoscopic group versus 3.0 ± 0.9 in the robotic group, $p=0.26$)

Conclusion

Although intra-operative opioid use was lower in the robotic- assisted group, the postoperative opioid requirements and the postoperative pain scores have been the same in both the groups. Overall there was no significant difference in the total perioperative opioid requirements or the pain scores

Reference

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