Abstract

Introduction: No study so far has tested a beverage containing glutamine 2 h before anesthesia in patients undergoing surgery.

Objectives: The aim of the study was to investigate: 1) the safety of the abbreviation of preoperative fasting to 2 h with a carbohydrate-L-glutamine-rich drink; and 2) the residual gastric volume (RGV) measured after the induction of anesthesia for laparoscopic cholecystectomies.

Methods: Randomized controlled trial with 56 women (42 (17-65) years-old) submitted to elective laparoscopic cholecystectomy. Patients were randomized to receive either conventional preoperative fasting of 8 hours (fasted group, n = 12) or one of three different beverages drunk in the evening before surgery (400 mL) and 2 hours before the initiation of anesthesia (200 mL). The beverages were water (placebo group, n = 12), 12.5% (240 mOsm/L) maltodextrine (carbohydrate group, n = 12) or the latter in addition to 50 g (40 g in the evening drink and 10g in the morning drink) of L-glutamine (glutamine group, n = 14). A 20 F nasogastric tube was inserted immediately after the induction of general anesthesia to aspirate and measure the RGV. Results: Fifty patients completed the study. None of the patients had either regurgitation during the induction of anesthesia or postoperative complications. The median (range) of RGV was 6 (0-80) mL. The RGV was similar (p = 0.29) between glutamine group (4.5 [0-15] mL), carbohydrate group (7.0 [0-80] mL), placebo group (8.5 [0-50] mL), and fasted group (5.0 [0-50] mL). Conclusion: The abbreviation of preoperative fasting to 2 h with carbohydrate and L-glutamine is safe and does not increase the RGV during induction of anesthesia.

Keywords

Cholecystectomy, Preoperative fasting, Glutamine, Residual gastric volume, Randomized controlled stud.