Is perioperative administration of 5% Dextrose effective in reducing the incidence of PONV in laparoscopic cholecystectomy? : A randomized control trial

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Introduction

Postoperative nausea and vomiting (PONV) is one of the most distressing concerns in postsurgical patients. It needs to be dealt in a better-tolerated and cost effective way. In the present study we examined the role of perioperative administration of 5% dextrose v/s normal saline for reducing incidence of PONV in patients undergoing laparoscopic cholecystectomy and its effect on patient having high and low Apfel score.

Materials and methods (NA for case report)

After getting our institutional ethical committee clearance and written informed consent from the patients, 100 patients with American Society of Anesthesiologists status I to II undergoing laparoscopic cholecystectomy were enrolled in this study. Patients were randomized into two groups, normal saline (NS) group and 5% dextrose (D) group. Both the groups received balanced salt solution intravenously as maintenance fluid during intraoperative period. Besides this, patients of group NS received 250 ml of 0.9% normal saline and patients of group D received 5% dextrose @ 100ml/hour started at the time when gall bladder was out and continued with the same rate in the postoperative period till it was finished. An independent observer observed incidence of PONV, Apfel score, use of rescue antiemetics, intraoperative opioids and fluids administered.

Results/Case report

Demographic data was statistically similar. Out of total 100 patients, 47 patients (47%) had PONV. In group D, 14 patients (28%) had PONV while in group NS, 33 patients (66%) had PONV within 24 hours of surgery (p value 0.001). The incidence of PONV was reduced by 38% in group D which is significantly lower when compared with that of group NS (p value < 0.001). The consumption of single dose of rescue antiemetics in group D was also reduced by 26% when compared to that of group NS (p value 0.002).

Discussion

PONV is one of the limiting factors in early discharge of daycare surgery patients. Current approaches to prevent and treat PONV are limited and >25% of patients experience PONV within 24 hour postoperatively. Universal pharmacologic PONV prophylaxis is associated with increased side effects (1). Non-pharmacological; perioperative administration of 5% dextrose in laparoscopic surgeries reduces PONV significantly and is cost effective too (2). The present study is unique in a way that it demonstrates a 38% reduction in PONV in patients receiving perioperative dextrose when compared to patients receiving perioperative normal saline which is the primary outcome of the study. This reduction is even more than that of previous studies (3,4,5) The secondary outcome of the study that is to find out the consumption of rescue antiemetics in both the groups has also shown better results in the group receiving dextrose. There is 26% reduction in use of single dose of ondansetron 4 mg in dextrose group. The distribution of patients among low and high Apfel groups was highly skewed as there was only one patient in high Apfel group. The analysis of risk association between the two groups with Apfel score could not be done.

References (Maximum 5)


3. Hausel J, Nygren J, Thorell A, et al. Randomized clinical trial of the effects of oral preoperative carbohydrates on postoperative nausea and...


**Disclosures**

I declare that there are no conflicts of interest or support that may cause bias in my presentation.