The objective of this systematic review was to determine whether administering colloids to adults undergoing noncardiac surgery significantly reduces PONV incidence and rescue antiemetic use, compared with administering crystalloids” Lee et al (2019).

Abstract:

STUDY OBJECTIVE: Evidence suggests that administering appropriate volumes of perioperative fluid replacement therapies can decrease the incidence of postoperative nausea and vomiting (PONV). However, the relative effects of colloids and crystalloids on PONV are still unclear. The objective of this systematic review was to determine whether administering colloids to adults undergoing noncardiac surgery significantly reduces PONV incidence and rescue antiemetic use, compared with administering crystalloids.

DESIGN: This study has been registered in PROSPERO (ID: CRD42016036174). We performed a meta-analysis of randomized controlled trials that compared the incidence of PONV and rescue antiemetic use in surgical patients randomized to receive colloid or crystalloid fluids. Risk ratios (RRs) and 95% confidence intervals (CIs) were calculated using a random-effects model. Heterogeneity was explored through I² statistics.

PATIENTS: Nine randomized trials that included a total of 843 surgical patients met the inclusion criteria.
MEASUREMENTS: The primary outcome of interest was the incidence of overall PONV. Secondary outcomes included the incidence of postoperative nausea (PON), postoperative vomiting (POV), and rescue antiemetic use.

MAIN RESULTS: Compared with crystalloid fluids, perioperative colloid administration did not reduce the incidence of overall PONV (RR 0.802; 95% CI: 0.561, 1.145; I² = 57.168%). However, the colloid infusion group (RR 0.625; 95% CI: 0.440, 0.888) had reduced PONV compared with the crystalloid infusion group (RR 1.244; 95% CI: 0.742, 2.085), in the subgroup with anesthesia duration >3 h and who underwent major surgery. Meta-regression analysis also showed that the slope was significant (p = 0.04215) for duration of anesthesia.

CONCLUSIONS: Colloid administration reduced the incidence of PONV in adults undergoing elective, noncardiac, major surgery under general anesthesia for >3 h. However, clinical studies performed in larger cohorts are required to determine the impact of colloids on PONV.

You may also be interested in...

- Is perioperative colloid infusion more effective than crystalloid?
- Haemodynamic effects of crystalloid and colloid volume resuscitation
- Impact of perioperative dextrose infusion and postoperative nausea and vomiting

Reference: