Comparison of intravenous and intraperitoneal lignocaine for pain relief following laparoscopic cholecystectomy: a double-blind, randomized, clinical trial

Abstract

Background: Laparoscopic cholecystectomy (LC) is increasingly being performed as a day-care surgery. Intraperitoneal (IP) instillation of lignocaine has been proved to provide pain relief following LC. Of late, there is an increased interest in using intravenous (IV) lignocaine to provide pain relief following LC. There are no studies in the existing literature as to which form of administration is more effective for pain relief. Hence, this study has been undertaken.

Methods: Patients (n = 50) undergoing LC for symptomatic cholelithiasis were randomized into two groups (n = 25 each) to receive IV 2 % lignocaine from induction until 1 h after surgery or IP instillation of 0.2 % lignocaine in the gallbladder fossa after removal of gallbladder. Postoperative analgesic requirement, pain scores, time to return of bowel activity, and stress response were assessed.

Results: The mean total morphine requirement ($p = 0.001$), median VAS, first analgesic requirement time ($p < 0.001$), and total PCA demands ($p < 0.001$) during the 24-h period were statistically significantly less in the IV group compared with the IP group. Return of bowel activity was earlier in the IV group, and it was statistically significant ($p < 0.001$). However, stress response, respiratory function, and postoperative nausea and vomiting were not significant statistically among the two groups.

Conclusions: IV lignocaine is superior to IP lignocaine in providing pain relief following LC. IV lignocaine has an added advantage of bringing about the early return of bowel activity, which will further facilitate surgeons to perform LC as a day-care procedure.