Elective small-incision cholecystectomy compared with laparoscopy had a shorter operation time and similar recovery


Objective
To compare laparoscopic and small-incision cholecystectomy for operation time, length of hospital stay, complications, and return to normal activities.

Design
Randomised, single-blind, controlled trial with 3-week follow-up.

Setting
A surgical unit of a U.K. hospital (4 surgeons).

Patients
200 adults (mean age 50 y, 80% women) who were scheduled for an elective cholecystectomy because of symptomatic gallstones confirmed by ultrasonography. Exclusion criteria were obstructive jaundice; body mass index > 45; inflammatory mass in the right hypochondrium associated with fever; pregnancy; liver cirrhosis; cancer; or unsuitability for anaesthesia.

Intervention
All patients were given the same premedication, anaesthesia technique, and postoperative patient-controlled analgesia. Operative cholangiography was attempted in all cases, and identical bloodied dressings were used for blinding purposes. Randomisation was done in the operating theatre. 100 patients were allocated to laparoscopic cholecystectomy. An open technique for the pneumoperitoneum was used if a periumbilical scar was present from previous surgery. The gallbladder was removed from the subumbilical incision, and the peritoneum was washed out with saline after the procedure. 100 patients were allocated to small-incision cholecystectomy. A small, high-transverse, subxiphoid incision was made directly over the junction of the cystic duct and common bile duct. Tantalum clips were used to ligate the cystic duct and artery, and the gallbladder was dissected towards the fundus rather than fundus first. Patients chose their own schedule for resumption of eating and for hospital discharge.

Main outcome measures
Operation time, complications, time to first solid or semisolid food, length of hospital stay, time off work for employed patients, and time to return to full activity for unemployed patients.

Main results
Intention-to-treat analysis was used. Patients in the small-incision group had shorter operation times (45.4 vs 69.2 min, P = 0.001) and shorter mean time to first solid or semisolid food (22.4 vs 24.7 h, P = 0.03). The groups did not differ for complications (12% vs 14%), although operating time and time to first solid or semisolid food sooner, but the groups showed no differences in length of hospital stay, time off work, or time to return to full activity.

Conclusion
Patients scheduled for elective cholecystectomy who had a small-incision operation compared with laparoscopy had a shorter operation time and consumed solid or semisolid food sooner; however, the groups showed no differences in length of hospital stay, time off work, or time to return to full activity.

Source of funding: Rimmer Brothers Ltd. provided laparoscopic instruments and equipment at the start of the study.

For article reprint: Mr. A.W. Majeed, Department of Surgical and Anaesthetic Sciences, Floor Royal Halkin Hospital, Sheffield S10 2JF, England, UK. FAX 44-114-275-3683.

Commentary
Laparoscopic cholecystectomy has supplanted open cholecystectomy as the preferred treatment for gallstones. Overlooked in the enthusiasm for the new technology is a third alternative—the small-incision or "mini" cholecystectomy. In this elegantly designed study, Majeed and colleagues compared surgery that used a minimal incision (median length 7.0 cm) with the laparoscopic technique. Few differences in outcomes were found, although operating time and time to first meal favoured small-incision surgery.

The most surprising results, however, were the prolonged recovery times in both groups. Median hospital stay after surgery was 3 nights. Employed persons who received laparoscopic surgery took 5 weeks off work, and those who had small-incision cholecystectomy took 4 weeks off. Unemployed patients returned to full activity sooner than those who had undergone laparoscopic cholecystectomy (1, 2) and are substantially longer than those of other trials of laparoscopic cholecystectomy (2, 3). The present study differed from others because patients dictated their own pace of recovery, and their caregivers provided no advice on how long they should remain convalescent.

The lesson here is that the recovery periods after surgery can be strongly influenced by patient preferences, physician expectations, and perhaps, cultural factors. When incentives for short hospital stays and quick returns to work are present, both laparoscopic and small-incision cholecystectomy offer substantial advantages over traditional open surgery.

Andrew K. Diehl, MD, San Antonio, Texas, USA
Wayne H. Schweizer, MD
University of Texas Health Science Center San Antonio, Texas, USA

References