Report

Laparoscopic cholecystectomy in Jordan

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SUMMARY This study was conducted on 100 patients with symptomatic gallbladder stones, aged 22–81 years with a mean of 51.5 years, who underwent cholecystectomy in Zarqa city, Jordan between July 1998 and July 1999. The success rate was 87% and the procedure was completed using the conventional method in 13 patients. The mean operative time was 60 minutes, complication rate was 5% and there were no deaths. The mean hospital stay was 1 day and mean time to return to work was 10 days. This study showed that laparoscopic cholecystectomy is a safe procedure with reasonable operative time, less postoperative pain, a short hospital stay, early return to work, and a low morbidity and mortality rate.

Introduction

Since it was first described in 1882 cholecystectomy has been the standard treatment for symptomatic gallbladder stones [1,2]. Over the next century cholecystectomy became the most common operative procedure of the biliary tract and in fact one of the most common major operations performed in general surgery [3].

In 1978, Dr Phillipe Mouret, a French surgeon, performed the first laparoscopic cholecystectomy [4]. This technique has received a great deal of publicity as a procedure establishing a new standard of care for the treatment of patients with symptomatic gallstone disease [5]. Reports in the lay press detailed the advantages of a marked reduction in recovery time and postoperative pain and better cosmetic appearance [5].

Initial limited access to centres performing this procedure created an aura of scarcity around laparoscopic cholecystectomy. Patient demand for the procedure

soon became overwhelming. As a result, surgeons started to use laparoscopic cholecystectomy before well-constructed and analysed clinical trials had been performed [5]. At the same time, the surgical community recognized that few scientific data existed that evaluated the procedure critically [5]. Information comparing the safety and efficacy of this technique with open cholecystectomy was lacking. The educational needs of surgeons learning this new technique were not addressed, nor were guidelines for appropriate certifying of surgeons established [5].

Gallbladder stone is a common problem among Jordanian people [6]. Conventional open cholecystectomy was the only method of treatment until 1991 when laparoscopic cholecystectomy was introduced to Jordan, initially at the central hospitals. Subsequently, the technique was introduced to most of the peripheral hospitals, especially in the Royal Jordanian Medical Services where this study was performed. The objective of this study was to evaluate

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Received: 30/07/00; accepted: 07/01/01

the laparoscopic cholecystectomy approach as an alternate to conventional open cholecystectomy.

Methods

One hundred consecutive unselected patients received surgical treatment for gallstones at Prince Hashim Ben Al-Hussein Hospital, Zarqa city between July 1998 and July 1999. Of these, 88 (88%) patients were women and 12 (12%) were men, with ages ranging from 22 years to 81 years (mean 51.5 years). According to the body mass index, 21 (21%) patients were of normal build, 75 (75%) were overweight, and 4 (4%) were obese. Also, 10 (10%) patients had a pre-operative medical illness: hypertension (3), diabetes mellitus (2), ischaemic heart disease (2), chronic obstructive airway disease (2) and liver disease (1), and 3 patients had had previous surgery (2 an appendectomy and 1 patient a haemorrhoidectomy). Three patients had a history of jaundice. They had been investigated and found to have common bile duct stones that had been treated successfully using endoscopic retrograde cholangiopancreatography to perform sphincterotomy to the sphincter of Oddi.

All the patients received laparoscopic cholecystectomy. Postoperatively, patients were allowed to have oral fluids on the same operative day after full recovery from anaesthesia and a normal diet from the first postoperative day. Patients were discharged from the hospital once completely mobilized, on a normal diet and with pain that could be controlled by a simple oral analgesic.

Results

The procedure of laparoscopic cholecystectomy was successfully completed in 87

(87%) patients with a mean operative time of 60 minutes, while the procedure was changed to the conventional method in 13 (13%) patients. Reasons for the change included: cholecystitis with difficulty in identifying the anatomy clearly in 7 (7%) patients, lack of real progress after 80 minutes of laparoscopic dissection in 5 (5%) patients, and intra-abdominal adhesions due to previous abdominal surgery in 1 (1%) patient.

Using a visual analogue scale, postoperative pain was classified as severe, moderate, mild or absent. As regards pain, 18 (18%) patients had severe pain that required strong analgesics (opiate), while 50 (50%) patients had moderate pain that subsided with simple analgesics such as non steroidal anti-inflammatory drugs. The remaining 32 patients (32%) reported mild pain that did not require any analgesia.

Sixty-seven patients (67%) had oral fluids on the same operative day, and all patients were eating a normal diet on the first postoperative day without after-effects. The hospital stay ranged from 1 to 2 days. The time needed before patients could return to work and normal activities ranged from 4 to 20 days, with a mean of 1 week.

The complication rate was 5%: 2 (2%) patients had postoperative jaundice due to clamped common bile duct and hepatic duct, 1 (1%) patient had postoperative sub-hepatic bile collection due to cystic stump leak, and 2 (2%) patients had postoperative wound infection.

Discussion

In comparison with conventional open cholecystectomy, laparoscopic cholecystectomy has several advantages. The surgeon's hands do not enter the abdomen at any stage, so it is a technique involving less manipulation of tissues, decreased contam-

ination of the abdominal cavity and limited postoperative ileus. In addition, it decreases postoperative pain, shortens hospital stay, enables return to work with fewer postoperative complications, and gives a more satisfactory cosmetic appearance of the wound. There is also a decreased incidence of incisional hernia, and there is no clinical indication to continue intravenous fluid infusion after full recovery from anaesthesia.

On the other hand, the large-scale introduction of laparoscopic techniques to general surgery as a treatment for diseases of the gallbladder is associated with several potential risks [7].

- The attractiveness of the method to patients who learn of the considerable benefits of minimally invasive surgery from the news media, without any comparable indication of the possible complications.
- The attractiveness of the method to surgeons as a "bread and butter" operation.
- Possible pressure for its implementation from instrument manufacturers, for whom rapid dissemination of the technology is good business.
- The numerous short training courses through which practitioners are introduced to laparoscopic methods that may lack the safeguards inherent in traditional surgical education.

The initial performance of laparoscopic cholecystectomy is not easy, so we suggest that surgeons performing this procedure should be adequately trained in order to master it fully. We stress the need for objective testing of the skills taught in such courses. Once mastered, the technique is easily performed. There is much to be learned from our experience with laparoscopic cholecystectomy about the opportunities for improvements in our system for training, certifying and monitoring surgeons.

In conclusion, laparoscopic cholecystectomy is a safe procedure that is easy to perform once mastered. It results in less postoperative pain and reduces health care costs. Obesity and acute cholecystitis are not contraindications for its application. Advances in technology and techniques may reduce the morbidity and mortality of these surgical procedures and ultimately improve the standard of care for surgical patients.

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