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ORIGINAL RESEARCH

Laparoscopic Surgery An Excellent Approach in Elderly Patients

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ABSTRACT

Aim: The Aim of the study is that laparoscopy is safe and effective for the treatment of surgical diseases in elderly patients. **Study Method and Material:** In this Study We have Two Group for Study one is the group of patient that is under gone the surgery of inguinal hernia by open and laparoscopic approach and other group is underwent the surgery of laparoscopicCholecystectomy and open Cholecystectomy. After We Than evaluate that which surgical approach is better for the elderly patient. In this Study a randomized, multicentre trial in which Group A of 450 patients with inguinal hernias were treated by extraperitoneal laparoscopic repair and 500 patients were treated by conventional anterior repair. We recorded information about postoperative recovery and complications and examined the patients for recurrences one and seven weeks, six months, and one after surgery.Group B of 100 Compared with open cholecystectomy, elderly patients undergoing the laparoscopic procedure . laparoscopic cholecystectomy is now the technique of choice for acute cholecystitis. It is, however, important to evaluate the results in comparison with classic cholecystectomy, since the latter is still used by some surgeons in certain situations.In this study reporting the results of laparoscopic antireflux surgery in the elderly, the morbidity, mortality, and length of hospital stay were similar to those of younger patients. The elderly had equally good postoperative symptom relief. **Result:** For Group A: Six patients in the open-surgery group but none in the laparoscopic-surgery group had wound abscesses (P = 0.03), and the patients in the laparoscopic-surgery group had a more rapid recovery (median time to the resumption of normal daily activity, 6 vs. 10 days; time to the return to work, 14 vs. 21 days; and time to the resumption of athletic activities, 24 vs. 36 days; P<0.001 for all comparisons). With a median follow-up of 600 days, 30patients (6 percent) in the open-surgery group had recurrences, as compared with 17 patients (3 percent) in the laparoscopic-surgery group (P = 0.05). All but three of the recurrences in the latter group were within one year after surgery and were caused by surgeon-related errors. In the open-surgery group, 15 patients had recurrences during the first year, and 16 during the second year. Follow-up was complete for 97 percent of the patients. For Group B : Laparoscopic Cholecystectomy versus Open Cholecystectomy: Mortality: 0.7% vs 3,7% (p = 0.0369); Peroperative complications: 3.6% vs 12.9% (p = 0.0006); Surgical postoperative complications: 7.7% vs 17.5% (p = 0.0055); Medical postoperative complications: 4.3% vs 5.5% (p = 0.6077); Lesion of the main bile duct: 0.9% vs 1.8% (p = 0.6091); Reoperation: 2.9% vs 5.5% (p = 0.2315); Hospital stay up to 4 days after surgery: 64.8% vs 18.5% (p < 0.001). The convertion rate was of 10.7%: 8.8% in early surgery (before 4 days after de diagnosis) and 13.7% in the late surgery (after this time but in the same stay) (p = 0.1425). Multiple causes led to convertion: surgical complications (biliary lesions, iatrogenic lesion of the small bowel, perfurations of the gallbladder with spillage of stones); complications during the pneumoperitoneum, unclear anatomy and scoliosis. Postoperative complications in laparoscopic cholecystectomies converted group vs non-converted: surgical 20.4% vs 6.2% (p = 0.0034) and medical 6.8% vs 4.1% (p = 0.4484)**. Conclusions:** Despite underlying comorbidities, individuals older than 65 years tolerate laparoscopic procedures extremely well. Patients with inguinal hernias who undergo laparoscopic repair recover more rapidly and have fewer recurrences than those who undergo open surgical repair. The results justify the frequency with which laparoscopic cholecystectomy is performed in acute cholecystitis, in comparison to open surgery, thus taking an increasingly prominent place in the treatment of this disease.In Laparoscopic Surgery there is minimally invasive procedures result in shorter hospitalization, earlier ambulation, decreased postoperative pain, and more rapid return to routine activities, laparoscopic surgery would appear to be the ideal surgical choice for elderly patients. Although even elderly patients with significant underlying comorbidities can tolerate urgent surgical intervention, all patients clearly have better outcomes when procedures are performed in the elective setting. In light of the evidence that laparoscopic procedures are well tolerated in the elderly.

Keywords: Laparoscopic Surgery, Elderly Patients, cholecystectomy

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INTRODUCTION

The laparoscopic approach was initially considered contraindicated for surgical treatment of acute cholecystitis. Since the mid-nineties, it became the main technique for this disease .he application of laparoscopic cholecystectomy (Lap. C) for acute cholecystitis (AC) remains controversial from the viewpoint of its higher rate of morbidity, and conversion to open surgery, in spite of the worldwide acceptance of Lap. C as the gold standard for the treatment of patients with symptomatic gallbladder diseases. [1] The conversion rate has been reported to decrease with experience. Local and overall complication rates were shown to correlate with the time delay between the onset of acute symptoms and the operation. Although percutaneous gallbladder drainage (PGBD) has been reported to be a safe and effective procedure for the treatment of AC, it should be limited to high-risk groups such as elderly or critically ill patients. Early cholecystectomy within 4 days from the onset is strongly recommended to minimize surgical complications and to increase the chance of a successful laparoscopic approach. The advantage of LC compared with OC persists even in the extreme elderly.[2]Moreover, the number of octogenarians undergoing LC is increasing, in some cases more quickly than the number of younger patients.Despite the higher incidence of advanced gallbladder disease in octogenarians, a large number of these individuals present electively for treatment of biliary disease.The conversion rate in the extreme elderly is higher than in those aged 65 to 79 years, as are morbidity and mortality. Inguinal hernias further are subdivided into indirect inguinal hernias (also known as lateral hernias) and direct inguinal hernias (also known as medial hernias) according to the anatomical relation to the inferior epigastric vessels(i.e. laterally or medially of the vessels)[3] . The reasons why inguinal hernias develop are largely unknown, and limited epidemiologic data exist regarding the detailed occurrence of inguinal and femoral hernias. children almost exclusively develop indirect inguinal hernias , whereas a mixture of indirect inguinal hernias, direct inguinal hernias and femoral hernias occur in adults. One of the largest challenges regarding Inguinal hernia surgery is recurrence and this still remains a clinical problem, even though treatment modalities and technical aspects have improved.[4,5]

MATERIAL AND METHODS

Group A: Patients over 25 years old who presented with clinically diagnosed, unilateral inguinal hernias (primary hernias or first recurrences) who were scheduled to undergo surgical repair with general anaesthesia were eligible for the study. Exclusion criteria were an additional surgical intervention planned during the hernia repair; a history ofextensive lower abdominal surgery, severe local inflammation, pregnancy . Patients who were mentally incompetent or not able to speak Dutch were also excluded.

Group B: in this Study 520 patients with acute cholecystitis were operated . In total, 412 (79.2%) laparoscopic (LC) and 108 (20.8%) open cholecystectomy (OC) procedures were performed. Cholecystectomy procedures were excluded from our study. The option between each type of surgery was made according to the surgeon's experience in minimally-invasive surgery, the presence of severe systemic changes or biliary peritonitis; this last group of patients was included in the open cholecystectomy group. The group of converted patients was included in the group of laparoscopic cholecystectomy patients. Diagnosis was based on clinical, laboratory and imaging (ultrasound) data. Histological confirmation was obtained in all the patients. Surgery was performed upon failure of adequate medical therapy.Sixteen patients presented in shock comprising 11 LC (2.6%) and five OC (4.6%) patients; the haemodynamic changes presented by these patients were corrected prior to surgery; jaundice was observed in 16 LC (3.8%) and in seven OC (6.4%) patients, related to the presence of bile duct calculi. Common bile duct (CBD) calculi were diagnosed during the ultrasound examination in 23 patients who were transferred from A&E Department to the Surgical Department: endoscopic removal was performed in 16 patients, three to four days before LC and CBD stone removal was undertaken during OC in the remaining seven patients. Patient's average age (± standard deviation) by surgery type was 55.24 years (± 16.8) in LC and 70.55 years (± 14.7) in OC patients. The surgical techniques were described in a previousmanuscript.5 The statistical analysis was based on descriptive procedures, the differences between the groups were evaluated based on Fisher's exact test and significant values were considered for $p < 0.05$. We enrolled 955 patients, During this time, 110 eligible patients were not enrolled: 80 refused to participate, 30 could not understand the protocol, and 13 were not enrolled for a variety of reasons. Of the 955 enrolled patients, 30(14 assigned to the open-surgery group and 16 assigned to the laparoscopic-surgery group) decided not to undergo surgery, in most cases because of the absence of serious symptoms. Only three of these patients have subsequently undergone surgery.

Eighteen patients (8 in the open-surgery group and 10 in the laparoscopic-surgery group) were excluded. Three of these patients had bilateral repairs, four were considered to be poor candidates for general anaesthesia, and three were found not to have inguinal

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hernias at surgery. An additional eight withdrew informed consent: two wanted open repairs, three wanted laparoscopic repairs, two refused annual follow-up, and one underwent surgery at another hospital. In addition, eight patients did not undergo the assigned procedure because of a misunderstanding between the central office and the surgeon, with six of the patients undergoing unplanned open repairs and two undergoing unplanned laparoscopic repairs.

The patients in the laparoscopic-surgery group were able to resume normal activity sooner than the patients in the open-surgery group (Table 1). Scores on the activities-of-daily-living questionnaire, which were available for 98 percent of the patients, were higher in the laparoscopic-surgery group at all times.

Table 1: Overall analysis

Post Operative Recovery in the Two Treatment Groups		
Valuable	**open Surgery**	**Laparoscopic Surgery (Median Quartile Range)**
Post Operative Hospital Stay (days)	**2(1-2)**	**1 (1-2)**
Time to Resumption of normal Activity (days)	**10(6-16)**	**6(4-10)**
Time to Back to Return (days)	**21(12-33)**	**14(7-21)**
ADL Score		
At 1 day	**39(22-56)**	**50(33-67)**
At 1 week	**72(56-83)**	**83(72-94)**
At 2 week	**83(72-94)**	**94(83-100)**
At 6 week83(72-94)	**94(83-100)**	
P<0.0001 for all comparison		
ADL Denotes Activities of daily living		

The number of patients who underwent laparoscopic (LC) and open cholecystectomy (OC) are presented according to gender, co-morbidities, presence of leucocytosis, timeframe between diagnosis at A&E and surgery, American Society of Anaesthesiologists (ASA) classification, intra and postoperative complications, mortality, re-interventions, presence of gallbladder lesions and hospital stay. Gender: Male: 204 (49.5%) LC and 46 (42.5%) OC patients; p = 0.2340; Female: 208 (50.4%) LC and 62 (57.4%) OC patients; p = 0.2340. Leucocytosis above 12,000,000/ml3 : 267 (64.8%) LC and 89 (82.4%) OC patients, p = 0.0004. Timeframe between diagnosis at A&E and surgery (on the same admission): LC: Four days or below: 250 (60.6%), above four days: 162 (39.3%), p < 0.001; OC: Four days or below: 84 (77.7%), above four days: 24 (22.2%) p < 0.001. ASA III and IV: 85 LC patients were included in these groups (20.6%) and 40 (37.0%) OL patients; p = 0.0006 (Table 1). Intraoperative complications: these occurred in 15 LC (3.6%) and 14 OC (12.9%) patients (p =0.0006). The complications related to conversions were included in the LC group of patients (Table 2).CBD lesions (two in LC and one in OC patients) occurred in three patients and six patients presented with cystic duct lesions (three LC patients – two during the dissection of a cholecysto-duodenal fistula, with severe inflammatory signs and the remaining patient related to the removal of a large calculus from a scleroatrophic gallbladder – and three OC patients). These occurred during the cholecystocystic dissection aimed to carry out a peri-operative cholangiography. Haemorrhagic complications occurred in six patients, three due to a lesion of the cystic artery (twoLC and one OC patient) and three during the gallbladder dissection from the liver bed (two LC and one OC patient). Gallbladder perforation always occurred in patients with gangrenous cholecystitis with high abdominal dissemination of calculi. Iatrogenic small bowel lesion occurred in one LC patient, following a trocar placement to obtain the necessary pneumoperitoneum. Two OC patients suffered intestinal lesions during the dissection of cholecysto-duodenal fistulae.

Table 2: Overall analysis

	LC		OC		
	N	**%**	**N**	**%**	**P Value**
Intra-operative complications	**15**	**3.6**	**14**	**12.9**	**0.0006***
Post-operative complications: global	**50**	**12.1**	**25**	**23.1**	**0.0055***
Post-operative complications: surgical	**32**	**7.7**	**19**	**17.5**	**0.0055***
Post-operative complications: medical	**18**	**4.9**	**6**	**5.5**	**0.6077**
Re-interventions	**12**	**2.9**	**6**	**5.5**	**0.2315**
CBD lesion	**4**	**0.9**	**2**	**1.8**	**0.6091**
Mortality	**3**	**0.7**	**4**	**3.7**	**0.0369***
Hospital stay < 4 days	**267**	**64.8**	**20**	**18.5**	**< 0.0001**

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DISCUSSION

The results of our Study laparoscopic repair of inguinal hernias should be included as a reimbursable procedure in our health care system. Given the superior results of laparoscopic repair in terms of recovery and recurrence rates over time, and with the lessons of the learning curve kept in mind, a gradual introduction of laparoscopic hernia repair on a large scale seems warranted, but only if the procedure is supervised by experienced surgeons. [6,7,8]The results of this study indicate that patients with inguinal hernias recover more rapidly and have fewer recurrences after laparoscopic repair than after open repair. The duration of surgery was only slightly longer (five minutes) with laparoscopic repair, providing little support for the widespread belief that this procedure is more time-consuming than open surgery. Nearly all the laparoscopic operations were performed with general anaesthesia, whereas 60 percent of the open operations were performed with spinal anaesthesia.[9,10] The use of general anaesthesia might be considered a disadvantage of laparoscopic repair. Nevertheless, the patients in the laparoscopic-surgery group were discharged from the hospital sooner and had less early and late postoperative pain than the patients in the open-surgery group Laparoscopic Cholecystectomy, which was initially considered contraindicated in patients with acute cholecystitis, gradually became the gold standard of surgical treatment of this disease.[11,12,13]However, even today, some authors consider the open cholecystectomy approach as an indication in some circumstances .Although laparoscopic cholecystectomy is considered a standard treatment for acute cholecystitis, an open approach is still a valid option for more advanced disease.[14,15] We felt important to statistically analyse our Department's 520 operations, even more so as most of the referred series correspond to multicentric studies including surgeries performed by different surgical centres The global analysis of our results (Table 2) favours LC vs. OC regarding mortality, peri and postoperative complications and hospital stay.It is important to note that the successive technical training of our surgeons in laparoscopic surgery has considerably reduced this complication. The correction of those lesions included four jejunostomies (two LC and two OC patients) and two termino-terminal choledochal anastomoses, all included in the group 2 of Bismuth's classification.Although even elderly patients with significant underlying comorbidities can tolerate urgent surgical intervention, all patients clearly have better outcomes when procedures are performed in the elective setting. In light of the evidence that laparoscopic procedures are well tolerated in the elderly.[16,17]

CONCLUSION

Our results show the frequency of the laparoscopic approach of the acute cholecystitis in our Department, confirming the increasing importance of the minimally invasive surgery in the treatment of this disease. Despite underlying comorbidities, individuals older than 65 years tolerate laparoscopic procedures extremely well. Patients with inguinal hernias who undergo laparoscopic repair recover more rapidly and have fewer recurrences than those who undergo open surgical repair. The results justify the frequency with which laparoscopic cholecystectomy is performed in acute cholecystitis, in comparison to open surgery, thus taking an increasingly prominent place in the treatment of this disease.

In Laparoscopic Surgery there is minimally invasive procedures result in shorter hospitalization, earlier ambulation, decreased postoperative pain, and more rapid return to routine activities, laparoscopic surgery would appear to be the ideal surgical choice for elderly patients.

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