

Application of Laparoscopic Cholecystectomy in Patients with Previous Abdominal Surgery

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Purpose: Previous abdominal surgery has been one of the relative contraindications of laparoscopic cholecystectomy (LC). Recently, the accumulation of experience and the development of skill have widened the indications of LC. The aim of this study was to elucidate the effectiveness and safety of LC in patients with a history of previous abdominal surgery.

Methods: The medical records of patients treated with LC at Ewha Womans University, Mbkdong Hospital from March 1997 to December 2000 were reviewed. Operative results were compared between the previous abdominal-surgery group (Group A) and the non-operative history group (Group B). Group A consisted of 99 cases: 91 cases with one operation history, 7 with two, and 1 with three. Group B consisted of 99 cases randomly selected out of 437 cases without a history of previous abdominal surgery in the same period. We compared the mean operative time, conversion rate, rate of drain insertion, starting day of postoperative diet and hospital stay.

Results: In groups A and B, the mean ages were 52 and 51.4 years olds, the male to female ratios 1 : 2.7 and 1 : 1.08, and the mean operative times 88.8 and 91.1minutes (P=0.740), respectively. The conversion rates were 3% and the time of postoperative diet was 2.3 days in both groups. The rates of drain insertion were 21% and 15% (P=0.372), the hospital stay was 5.4 days and 5.6 days (P=0.769), the morbidity was 4% and 1% (P=0.371), respectively. There were no cases of mortality in either group.

Conclusion: The operative results of the patients with a history of previous abdominal surgery were similar to those of the patients without an operative history. Laparoscopic cholecystectomy was an effective and safe method in the patients with a history of previous abdominal surgery. (J Korean Surg Soc 2002;63:238-243)

Key Words: Laparoscopic cholecystectomy, Previous abdominal surgery

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1997 3 2000 12
 99 536 (A)
 437 (B)
 99
 A
 Chi-Square test, Fisher's exact test
 Mann-Whitney test

1) A 1 : 2.7, B 1 : 1.08
 (P=0.012). A
 52 (± 13), B 51.4 (± 14) (P=0.956).
 A 1 : 0.7, B
 1 : 0.6 (P=0.379)(Table 1).
 2) A
 A 7
 (7%), 92 (93%) . 99

Table 1. Patients characteristics

	Group A*	Group B [†]	P value
Patient number	99	99	
Male : Female	27 : 72 (1 : 2.7)	45 : 54 (1 : 1.08)	0.012 [‡]
Mean age (years)	52 (± 13)	51.4 (± 14)	0.956
Inflammation (Acute : Chronic)	58 : 41 (1 : 0.7)	63 : 36 (1 : 0.6)	0.379

* = Patients with previous abdominal surgery; [†] = Patients without previous abdominal surgery; [‡] = Statistically significant by chi-square test.

108
 41 (41.4%) 가
 23 (23.2%), 20
 (20.2%)
 가 7 (7%)
 5 (5.1%), 2 (2%)
 1 (1%) (Table 2).
 3)
 A 88.8
 B 91.1 (P=0.740).
 A 21 (21.2%), B 15
 (15.2%) (P=0.372).
 3 (3%)
 2.3
 A 5.4, B 5.6
 (P=0.769).
 A 4 (4%), B 1 (1%)가
 (P=0.371). A
 1 . B 가 1 .
 (Table 3).
 4) A
 1 가 91 (92%), 2
 가 7 (7%), 3 가 1 (1%) , 1
 2

Table 2. Previous abdominal operation

Previous abdominal operation	Number (n)
Appendectomy	41
Total abdominal hysterectomy	23
Caesarian section	20
Panperitonitis	7
Ectopic pregnancy	5
Ovarian cyst	5
Gastrectomy	2
Others*	5
Total	108

* = Others comprised of one case of bilateral salphingo-oophorectomy, intestinal tuberculosis, adhesiolysis, tubal ligation, and uterus myoma excision, respectively.

Table 3. Comparison between Group A and Group B

	Group A	Group B	P value
Operation time (minutes)	88.8	91.1	0.740
Abdominal drainage (n)	21 (21.2%)	15 (15.2%)	0.372
Conversion to open	3 (3%)*	3 (3%) [†]	NS
Postoperative diet start (days)	2.3	2.3	NS
Hospital stay (days)	5.4	5.6	0.769
Morbidity (n)	4 [‡]	1 [§]	0.371
Mortality (n)	0	0	NS

* = The causes of conversion included severe adhesion due to previous hysterectomy, intestinal tuberculosis, gastric ulcer perforation. [†] = The causes of conversion included cholecystic fistula, bleeding, and injury of common bile duct; [‡] = Prolonged ileus, wound infection, intraabdominal abscess, intestinal obstruction, [§] = Biliary fistula.

Table 4. Multiplicity of previous abdominal surgery

Multiplicity of previous operation	Patients number (n)	Operation time (minutes)
One	91	87.5
Two	7	114.3
Three	1	55
Total	99	

(P=0.231)

87.5 114.3 가
(P=0.231)(Table 4).
7 (7%)

2
7 5 가 , 92 (93%)

Pfannenstiel 가
가

110 , 87.5 ,
1 (14.3%) 20 (21.7%),
(2.2%) . 1 (14.3%) 2
2.4 2.2
(P>0.05).

8.5 5.3
(P=0.048)(Table 5).

13 (13%)

96.5 88 (P=0.553),

0% 24.4%(P=0.062)

2 (15.4%) 1 (1.1%)(P=0.046) ,

Table 5. Comparison between previous upper abdominal surgery and previous lower abdominal surgery

	Upper abdomen (n=7)	Lower abdomen (n=92)	P value
Operation time (minutes)	110.0	87.5	0.232
Abdominal drainage	1 (14.3%)	20 (21.7%)	0.572
Conversion to open	1 (14.3%)	2 (2.2%)	0.201
Postoperative diet start (days)	2.4	2.2	0.278
Hospital stay (days)	8.5	5.3	0.048*

* = P<0.05, statistically significant by Mann-Whitney test.

Table 6. Comparison between peritonitis and non-peritonitis in previous operation

	Peritonitis (n=13)	Non-peritonitis (n=86)	P value
Operation time (minutes)	96.5	88.0	0.553
Abdominal drainage	0	21 (24.4%)	0.062
Conversion to open	2 (15.4%)	1 (1.1%)	0.046*
Postoperative diet start (days)	1.8	2.3	0.024 [†]
Hospital stay (days)	4.9	5.5	0.535

* = P<0.05, statistically significant by Mann-Whitney test; [†] = P<0.05, statistically significant by Fisher's exact test.

1.8 2.3 (P=0.024)
4.9 5.5 (P=0.535) (Table 6).

Curet(13)

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- 1991;5:118.
- 10) Min SK, Han HS, Kim YW, Yi NJ, Kim EG, Ahn CY, et al. Application of laparoscopic cholecystectomy in acute cholecystitis. *J Korean Surg Soc* 2001;61:312-6.
 - 11) Yoon DK, Han HS, Kim YW, Choi YM. Laparoscopic surgery for common bile duct stone. *J Korean Surg Soc* 2000;58:420-5.
 - 12) Yerdel MA, Tsuge H, Mimura H, Sakagami K, Mori M, Orita K. Laparoscopic cholecystectomy in cirrhotic patients; expanding indications. *Surg Laparosc Endosc* 1993;3:180-3.
 - 13) Curet MJ. Special problems in laparoscopic surgery. Previous abdominal surgery, obesity, and pregnancy. *Surg Clin North Am* 2000;80:1093-110.
 - 14) Weibel MA, Majno G. Peritoneal adhesion and their relation to abdominal surgery. *Am J Surg* 1973;126:345-53.
 - 15) Nuzzo G, Giuliani F, Tebala GD, Vellone M, Cavicchioni C. Routine use of open technique in laparoscopic operations. *J Am Coll Surg* 1998;186:490-1.
 - 16) Borzelline G, De Manzoni G, Ricci F. Detection of abdominal adhesions in laparoscopic surgery; A controlled study of 130 cases. *Surg Laparosc Endosc* 1998;8:273-6.
 - 17) Champault G, Cazacu F, Taffinder N. Serious trocar accidents in laparoscopic surgery; a French survey of 103,852 operations. *Surg Laparosc Endosc* 1996;6:367-70.
 - 18) Goldstein SL, Matthews BD, Sing RF, Kercher KW, Heniford BT. Lateral approach to laparoscopic cholecystectomy in the previous operated abdomen. *J Laparoendosc Adv Surg Tech A* 2001;11:183-6.
 - 19) Diez J, Delbene R, Ferreres A. The feasibility of laparoscopic cholecystectomy in patients with previous abdominal surgery. *HPB Surg* 1998;10:353-6.
 - 20) Yu SC, Chen SC, Wang SM, Wei TC. Is previous abdominal surgery a contraindication to laparoscopic cholecystectomy? *J Laparoendosc Surg* 1994;4:31-5.
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