



Farklı Yaş Grubundaki Hastalarda Laparoskopik Kolesistektomi Sonuçları

Laparoscopic Cholecystectomy Results In Patients With Different Age Groups

Laparoskopik Kolesistektomi / Laparoscopic Cholecystectomy

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Özet

Amaç

Laparoskopik kolesistektomi benign safra kesesi hastalıklarında en çok tercih edilen metod olmuştur. İleri yaş ,mortalite ve morbiditenin artmasına neden olur. Bu çalışmanın amacı farklı yaşlardaki hastalarda laparoskopik kolesistektominin sonuçlarını karşılaştırmaktır (yaş < 30, 31-64 yaş,65 > yaş).

Gereç ve Yöntemler

Kasım 2001-Mayıs 2009 tarihleri arasında OMÜ Tıp Fakültesi ve Mustafa Kemal Üniversitesi Tıp Fakültesinde benign safra kesesi hastalığı nedeniyle laparoskopik kolesistektomi uygulanan toplam 511 hasta retrospektif olarak analize edildi. Hastalar yaşlarına göre 3 gruba bölündü. Grup A (<30 yaş, n=47),Grup B (31-64 yaş,n=368),Grup C (65 yaş>,n=96).

Bulgular

Tüm gruplarda laparoskopik kolesistektomi için en sık endikasyon semptomatik kolelitiazisdir. Ko-morbid hastalılar Grup C'de, Grup A ve B'ye göre anlamlı olarak daha yüksekti.İnsidental bilier patolojiler ve abdominal operasyon öyküsü tüm gruplarda benzer şekildeydi. Bununla birlikte bilier kanal ve sistik arter anomalileri Grup A'da,Grup B ve C' ye göre anlamlı olarak yüksek bulundu. Bu çalışmada 26 hastada (%5.08) açık kolesistektomiye dönmek gerekti. Açığa dönüşün en büyük nedeni Callot üçgeni zor diseksiyonu idi (21 hastada ;%80). Gruplar arasında morbidite açısından farklılık yoktu.

Sonuç

Sonuç olarak, genç hastalarda safra yolu anomalilerinin ve yaşlı hastalarda ko-morbid bozuklukların daha yaygın olduğu düşünülmelidir. Bu faktörler hastanın preoperatif iyi değerlendirilmesi sonucu etkilemez. Bununla birlikte cerrah bu durumun farkında olmalı ve intraoperatif ve postoperatif komplikasyonlar nedeniyle dikkatli olmalıdır.

Anahtar Kelimeler

Laparoskopik Kolesistektomi, Yaşlı ve Genç,Komplikasyon.

Abstract

Aim

Laparoscopic cholecystectomy (LC) has been most preferable method for benign gallbladder disease. Advanced age may be increased morbidity and mortality. The aim of this study was to compare the results of LC in patients according to different ages (age ≤ 30, 31 – 64 years, and age ≥ 65).

Material and Methods

A retrospective analysis was performed including overall 511 patients who underwent LC for benign disease of gallbladder at Ondokuzmayis University Medical Faculty and Mustafa Kemal University, Medical Faculty between November 2001 and November 2009. The patients are divided into three groups according to ages: Group A (age ≤ 30 years, n = 47), Group B (age = 31 – 64 years, n = 368), Group C (age ≥ 65, n = 96).

Results

Symptomatic cholelithiasis was the most common indication for LC in all the groups (p > 0.05). Co-morbid diseases were significantly higher in the Group C (≥ 65 years) than in the Group A and B (≤ 30 years, 31 – 64 years) (p=0.001). Co-incident biliary pathologies, and history of abdominal operation were similar in all the groups. However biliary duct and cystic artery anomalies were significantly more common in the Group A than in the Group B and C (p=0.001). Conversion to OC was required in 26 (5.08 %) patients in this study. The major reason for the (21 cases, 80.76 %) was difficult dissection of the Calot's triangle. There was no difference in morbidity among the groups (p>0.05).

Conclusions

As a conclusion, it's thought that biliary anomalies in young patients and co-morbid diseases disorders in elderly patients are more common. These factors do not affect the results of patient that preoperatively well evaluated. However surgeon should be aware of this condition and be careful for intraoperative and postoperative complication.

Keywords

Laparoscopic Cholecystectomy, Elderly And Young, Complication.

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Introduction

In the past, most patients for benign disease of gallbladder were treated by open surgery, but recent advances in laparoscopic surgery have dramatically changed their management. Laparoscopic cholecystectomy (LC) was first performed in Germany by Muhe in 1985 and by Mouret in France in 1987. By the time laparoscopic cholecystectomy has become gold standard for benign gallbladder diseases [1-6].

The most common indications for LC are symptomatic cholelithiasis and cholecystitis. Benign polypoid lesion or malign tumors of gallbladder are consisted only up to 5% [7, 8].

The average age of population in the world has increased over the previous 100 year. Biliary tract disorders are the one of the most common reasons for surgery in older patients. Incidence of gallstone disease in general population is about 10 % in adults in Europe and the USA. However in the group of aged 70 and over it gets up 20 % [9-11].

A few report in the literature have focused on the outcome of LC in young patients (30 years and younger). Most of them were reported the results of LC due to hematological disorder such as sickle cell disease, or romatological disease [12-14].

We reviewed our experience with LC in patients with benign gallbladder diseases and compared the results according to different age's groups (younger than 30 years, 31 – 64 years, age 65 and older).

Material and Methods

This is a retrospective chart review. Overall 511 patients who underwent elective LC for benign disease of gallbladder by our team at Ondokuzmayis University Medical Faculty and Mustafa Kemal University, Medical Faculty between November 2001 and November 2009 were evaluated. The patients were divided into three groups according to ages: Group A (age \leq 30 years, n = 47), Group B (age = 31 – 64 years, n = 368), Group C (age \geq 65, n = 96)

Laparoscopic cholecystectomy was performed using a standard four-port technique. The wound of umbilical trocar were not sutured in former 50 cases. Then they were sutured with PDS.

The exclusion criteria's are the cases of treated by open surgery for complicated acute cholecystitis, benign biliary tract pathologies and cholangitis. Preoperative endoscopic retrograde cholangiopancreatography (ERCP) was performed in all patients suspected of choledocholithiasis. The cases of obstructive jaundice were treated laparoscopically in former 2 cases. Later they were treated with ERCP (with sphincterotomy) + LC.

The conservative treatment consisted of intravenous infusion; antibiotics and nasogastric suction were applied during acute cholecystitis attack. The patients who responded to conservative treatment underwent LC 6 to 12 weeks after the acute episode. If the patients were not improved the clinical condition during acute episode, were operated with LC or OC. These patients were treated with OC that excluded from this study.

Tablo 1. Patient outcomes

	Patient outcomes	Group A \leq 30age	Group B 31-64 age	Group C 65> age
Number (n)	511	47	368	96
male / female	301 / 210	24 / 23	234 / 134	43/53
Preoperative diagnosis				
Cholelithiasis	438	27	333	78
Acute Cholecystitis	51	15	20	16
Acalculous cholecystitis	17	4	5	8
Polypoid lesions of gallbladder	1	1	-	-
Operation time (min)		11 - 34	12 - 60	18-75
Incidental infection rate in patients	185	32	58	95
Co-Incidental biliary pathology, biliary abnormalities, and past history of abdominal surgery				
Episodes of acute cholecystitis	51	15	20	16
Obstructive jaundice	5	2	2	1
Biliary abnormalities	6	6	-	-
Past history of abdominal surgery	24	7	8	9
Postoperative complications	12	3	4	5
Converted to open surgery	26	4	10	12
Injuries resulting from biliary channels	3	1	1	1
Time out of the hospital		2	3	4

The following criteria were evaluated: age, sex, indication for surgery, operative time, co-morbid disease, co-incident biliary pathologies, conversion to open cholecystectomy (OC), postoperative hospital stay, morbidity and mortality.

Statistical analysis was performed using SPSS for Windows 12.0. The associations among the categorical criteria were determined by chi-square, and z-test for two proportions. Statistical significance was defined as $p \leq 0.05$

Results

The patient's results among the groups such as mean age, distribution of sex, operative time, preoperative diagnosis, co-morbid diseases, co-incident pathologies, biliary anomalies, postoperative complication, and conversion to OC, common bile duct injury (CBDI), and length of hospital stay were presented in Table 1. The mean ages were 25.60 ± 3.64 , 47.99 ± 9.06 and 70.32 ± 5.06 in the Groups A, B, C respectively. The mean operative time was detected 34.47 ± 19.11 , 36.47 ± 23.00 and 37.72 ± 21.20 in the Group A, B, and C retrospectively ($p > 0.05$). No statistically significant difference was detected in sex distribution, mean operative time and preoperative diagnosis among the groups.

Symptomatic cholelithiasis was the most common indication for LC was noted in 38 of 47 patients (80.8 %) in the Group A, in 296 of 368 (80.4 %) in the Group B, in 79 of 96 (82.2 %) in the Group C. The other indication for LC was acute cholecystitis, acalculous cholecystitis and polypoid lesion of gallbladder ($p > 0.05$).

Forty one patients (87.2 %) in the Group A, 259 patients (70.3 %) in the Group B and 36 patients (37.5 %) in the Group C had no co-morbid disease. One hundred seventy five cases (34.2 %) had one or more co-morbid diseases. There were six cases (12.7 %) in the Group A. In the Group B and C, 109 (29.6 %) and 60 (62.5 %) patients had co-morbid diseases. Co-morbid diseases in Group C were significantly more common compared to the Group A and B ($p = 0.001$). Hypertension, cardiac disease and diabetes mellitus were the most common co-morbid diseases in the Group B and C.

Acute cholecystitis and other probably risk factors including acute cholecystitis attack in last month, obstructive jaundice, biliary anomalies, and history of abdominal surgery were found 34, 32, 5, 17, and 35 in patients in the Group A, B, C respectively. Co-incident biliary pathologies and history of abdominal operation were similarly in all the groups ($p > 0.05$). Biliary or cystic artery anomalies were determined in seventeen cases. Nine (2.44 %) patients in the Group B and 1 patient (1.04 %) in the Group C had biliary anomaly whereas biliary duct and cystic artery was determined in 7 patients (14.8 %) in the Group A ($p = 0.001$). Three cases had short cystic duct + thin calibred common hepatic duct, one case had choledochoceles, two cases had intrahepatically located gallbladder and one case had duodenal diverticula that affected bile flow in the Group A. The results of Group A is higher than those of Group B and C ($p = 0.002$, $p = 0.001$).

Conversion to conventional surgery was required in 26 of 511 patients. The major reason for the conversion (21 cases, 80.76 %) was difficult dissection of the Calot's triangle. Other reasons were injury of bile duct or stomach and technical insufficiency ($p > 0.05$).

Bile duct operations including T-tube drainage and biliary-enteric anastomosis and sphincterotomy with ERCP were performed in 17 cases. Five cases were in the Group A (10.6 %) those of

biliary anomalies or bile duct injuries. Four cases were in the Group B (1.08 %) (Two bile duct injury, two obstructive jaundice). Eight cases of obstructive jaundice were in the Group C (8.3 %). These results are statistically higher in the Group A and C than Group B ($p = 0.001$). If the anomalies were excluded from this study, secondary bile duct pathologies were significantly higher in the Group C than younger ($p = 0.02$).

Fifteen postoperative complications occurred in 14 patients. Ten of them who developed postoperative complications were in Group B including umbilical hernia. These cases were wound of with unsutured umbilical trocar site in former 50 cases. We recognized only one complication in the Group A. This was a bile duct injury. There were four complications in three cases in Group C. The patients had two complications in Group C was case of suspicion of choledocholithiasis. Hepatic abscesses were diagnosed in one patient in Group C. He had been treated by preoperative ERCP and sphincterotomy. Choledochal stones and ascariasis was removed then biliary tract was irrigated with saline. Two days later LC was carried out. The patient discharged on second postoperative day with no complication. At the 10th he has readmitted to emergency room with umbilical wound infection and hepatic abscesses formation. He had been treated by US-guided drainage and medical treatment. Complications were common in the Group C. However there was no statistically difference among the groups ($p > 0.05$).

All the patients were followed up to six month. There were three deaths in this period. All of them were not related with LC. One of them aged 86 female patients died due to sepsis and multiorgan failure (MOF) in the 2nd postoperative month. The others (overlooked pancreatic malignancy and peritonitis carcinomatosa diagnosed intraoperatively) died in the 5th and 4th postoperative months.

The mean postoperative hospital stay was 2.4 ± 2.0 , 3.1 ± 3.2 , 4.7 ± 4.3 in the Groups A, B, C respectively. The mean postoperative stay was longer in the Group C than the Groups A and B. Statistically significant difference was detected among the groups ($p = 0.02$). The results of patients are shown in Table 1.

Discussion

During the past twenty years, LC has replaced OC as a gold standard for benign gallbladder disease. The advantages of LC over OC including better postoperative pulmonary function, decreased postoperative pain, less patient discomfort, decrease postoperative hospital stay and earlier return to normal activity [2,3].

Cholecystectomy is the most common laparoscopic procedure in older patient; approximately one-fourth of all cholecystectomies are performed in patients age 65 and older. Elderly patients have significantly co-morbid diseases and limited functional reserve that may be occurred to adverse surgical outcomes. Several studies have reported the results of LC in older patients. In addition several clinical studies advocate to using of LC in elderly patient [15-18].

Several clinical studies have reported that the results of LC associated with different condition such as previous surgery, cirrhotic patient, asymptomatic gallstone. However there are a few reports in younger patients (in patients age 30 and younger) about LC in English literature. The majority of reports about LC in young patients are associated with hematological disorder. Especially diseases with hemolytic result in enlarged bilirubin pool, crystallization and stone formation. Hematologi-

cal disorder such as sickle cell anemia has a high incidence of cholelithiasis [19, 20]. The majority of patients in this study underwent LC for symptomatic cholelithiasis. This is similar to that reported by Zraggen et al [21]. The distribution of gender and a mean operative time was similar among the groups in our study.

A number of co-morbid diseases and decrease functional reserve are also associated with advancing age. The incidence of hypertension, cardiac disease, diabetes mellitus and chronic pulmonary disease are increased in older patients. The morbidity and mortality following laparoscopic surgery may be increased in elderly patients due to the increase of intraabdominal pressure during pneumoperitoneum that can cause an increase in mean arterial pressure, systemic vascular resistance, inferior vena caval pressure and decrease functional pulmonary capacity [22]. Co-morbid diseases were significantly higher in the Group C (in patients 65 age and older) than in the Group B and A (31-64 years, \leq 30 years). Hypertension and cardiac disease are the most common co-morbid diseases in our series.

Laparoscopic cholecystectomy is recommended in co-incidental biliary pathology including acute cholecystitis episode, obstructive jaundice, previous biliary pancreatitis and history of abdominal surgery. These conditions are associated with a higher conversion rate, a prolonged operating time, an increased postoperative wound infection and a longer postoperative time [23-26]. Innumerable anatomic variations of extrahepatic biliary system have been described in the literature. Also these variations are potential risk factor for CBDI [27, 28]. Co-incidental biliary pathologies and history of abdominal operation were similar in all the groups, whereas bile duct and cystic artery anomalies were statistically higher in the Group A compared to Group B and C in our study. The result of CBDI was not increased in the Group A. The anatomic variation of bile duct is affected bile flow and may increase gallstone formation. Surgeon keeps in mind a high incidence of bile duct anomaly in young patients. And anatomical structure in Calot's triangle is not identified properly, intraoperative cholangiography or conversion to open surgery due to the doubt of CBDI is recommended.

The incidence of cholelithiasis rises with age. Bile duct operations including t-tube drainage and biliary-enteric anastomosis and sphincterotomy with ERCP were more common in the Group A and C than Group B ($p = 0.001$). If the anomalies were excluded from this study, secondary bile duct pathologies were

significantly higher in the Group C than younger ($p=0.02$). These results were correlated with literature.

The acceptable conversion rate for an elective LC is 3 – 5 %, and that for acute cholecystitis is 6 – 35 %. Conversion to OC was needed in 26 (5.08 %) patients in this study. The major reason for the conversion (21 cases, 80.76 %) was difficult dissection of the Calot's triangle. Male gender, age older than 60, previous abdominal surgery, obesity and acute cholecystitis were reported as a risk factor for conversion to OC. Increased age is associated with an increased conversion rate in the literature, perhaps due to a longer history of gallstones and more acute episode in the past [23, 24, 29]. Advanced age was not an independent risk factor for conversion to OC in our study. There was no statistically difference among the groups.

Clinical studies reported that the rate of postoperative complication related with LC is less than OC. Postoperative complication is occurred in only about 1.5 – 5 % of all patients after LC. Some studies reported that morbidity and mortality increased with age (in the patients older 65 age) associated with co-morbid disease and symptomatic cholecystitis due to risk repeated acute episode and difficult dissection in the operation [16-18]. Postoperative complication was identified in 14 patients (2.9 %). Advanced age was slightly increased a postoperative complications in the Group C. However there was no statistically difference among the groups. Three patients died during the postoperative six month. They were not related with LC.

CBDI is a serious complication of LC, and to identify of anatomic structure is important. The incidence of CBDI is variable. We recognized 3 cases of bile duct injury (0.5 %). One of them was in Group A and two of them in Group B. The use of intraoperative cholangiography is remaining controversial. The technique should help avoid CBDI due to identify aberrant bile duct and anatomic variation. However some studies don't support routine intraoperative cholangiography that increase operative time and cost and not decreases CBDI [25, 30, 31].

As a conclusion it's thought that biliary anomalies are more common in young patients. Also elderly patient have a high incidence of co-morbid diseases and bile duct pathologies. These factors do not affect the results of LC. Therefore LC is safe and effective treatment in patients for benign gallbladder diseases even in elderly patients. However surgeon should be aware of these conditions and be careful in these situations intra- and postoperative periods.

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