The Professional Medical Journal
www.theprofesional.com

ORIGINAL PROF-2493

BILE DUCT INJURIES;

FREQUENCY DURING CHOLECYSTECTOMY PROCEDURES EITHER OPEN OR LAPAROSCOPIC

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Article received on:
14/04/2014
Accepted for publication:
18/07/2014
Received after proof reading:
16/10/2014

ABSTRACT… Objective: To find out frequency of bile duct injuries during cholecystectomy procedures either open or laparoscopic. **Study design:** Prospective observational study. **Place and duration of study:** This study was conducted at Surgical department, Liaquat University Hospital Jamshoro and Dow International Hospital Karachi, from July 2012 to December 2013. **Methodology:** This study consisted of hundred patients. Patients were divided in two groups. Group A for open cholecystectomy (OC) comprising of 50 patients who underwent elective open cholecystectomy. Group B for Laparoscopic cholecystectomy (LC) comprising of 50 patients who underwent elective Laparoscopic cholecystectomy. Inclusion criteria were all patients diagnosed case of gallstones on the basis of ultrasound abdomen, any age and both gender. Exclusion criteria included not willing for surgery, General anesthesia problem, pregnant ladies due to risk of foetal loss, carcinoma of gall bladder, stone in CBD and obstructive jaundice. **Results:** Out of 100 cases of gallstone were operated for either laparoscopic / open cholecystectmy. In open cholecystectomy group 20(40 %) were male and 30(60 %) female. Ratio male: female ratio of 1:1.5. In laparoscopic cholecystectomy group 11(22 %) were male and 39(78 %) female with male: female ratio of 1:3.5. There was wide variation of age ranging from a minimum of 10 year to 70 year in both group. The mean age was 41.28+12.30 years for OC group and 38.44+13.50 years for LC group (p 0.02). Common bile duct injury were occurred 2(4%) patients in laparoscopic cholecystectomy group while 3(6%) patients observed in open cholecystectomy group. **Conclusions:** We conclude that found bile duct injury 2(4%) patients in laparoscopic cholecystectomy group while 3(6%) patients observed in open cholecystectomy group.

Key words: Laparoscopic cholecystectomy, Open cholecystectomy, Bile duct injury

Article Citation: Sana S, Jawed M, Shaikh U, Shaikh S. Bile duct injuries; frequency during cholecystectomy procedures either open or laparoscopic. Professional Med J 2014;21(5):841-844.

INTRODUCTION

Iatrogenic injuries occurring during cholecystectomy, is revealed as the true surgical challenge. These variations can be a significant complication in the treatment of common diseases such as gallstones, which affects about 10% of the population. Literature still record a level of from 0.1% to 0.6% bile duct injury in laparoscopic procedures[1,2,3].

The change provided by laparoscopy, is the main explanation for the increased incidence of iatrogenic injury to the bile duct. Incomplete knowledge of technologies and tools, training and surgical skills, determined to increase the number of changes in the bile ducts, associated with increased severity and poor repair. Such lack of knowledge led, not cure cholecystectomy in cholelithiasis, the occurrence of chronic disease with significant morbidity and mortality: iatrogenic damage to the biliary[4].

Iatrogenic bile duct injuries has increased many aspects of laparoscopic cholecystectomy after he had entered into force. Complications associated with mortality and long-term continuity of these injuries have made them the most dangerous complications of laparoscopic cholecystectomy[5,6,7,8,9,10]. This has been attributed to lack of experience in this new technology and to reduce the rate of iatrogenic bile trauma was expected time[11,12,13]. Several mechanisms that cause biliary injury manifest in this unwarranted anatomical Calot Triangle curves, the use of diathermy near the biliary, local pathology, such as acute and chronic inflammation of the gallbladder

fibrosed, excessive traction on the gallbladder, a casual attitude during operation and human error[14,15,16].

Many authors of the study, such as the proposed intraoperative cholangiography and magnetic resonance cholangiogram reduce the rate of these injuries[13,17]. Iatrogenic biliary trauma continues to occur despite a substantial improvement in the technique and experience in this field. This study focuses on frequency of iatrogenic biliary injuries.

MATERIAL & METHODS

This study was conducted at Surgical department, Liaquat University Hospital Jamshoro and Dow International Hospital Karachi, from July 2012 to December 2013. Patients were divided in two groups. Group A for open cholecystectomy (OC) comprising of 50 patients who underwent elective open cholecystectomy. Group B for Laparoscopic cholecystectomy (LC) comprising of 50 patients who underwent elective Laparoscopic cholecystectomy. Detailed Clinical examination regarding palpable mass, visceromegaly in the right hypochondrium and assessment of murphy's sign. All patients prepared for surgery. Inclusion criteria were all patients diagnosed case of gallstones on the basis of ultrasound abdomen, any age and both gender. Exclusion criteria included not willing for surgery, General anesthesia problem, pregnant ladies due to risk of foetal loss, carcinoma of gall bladder, stone in CBD and obstructive jaundice.

RESULTS

100 cases of gallstone were operated for either laparoscopic / open cholecystectmy. In open cholecystectomy group 20(40 %) were male and 30(60 %) female. Ratio male: female ratio of 1:1.5. In laparoscopic cholecystectomy group 11(22 %) were male and 39(78 %) female with male:female ratio of 1:3.5 (Fig No.1). There was wide variation of age ranging from a minimum of 10 year to 70 year in both group. The mean age was 41.28+12.30 years for OC group and 38.44+13.50 years for LC group (p 0.02) (Fig 2). Common bile duct injury were occurred 2(4%) patients in laparoscopic cholecystectomy group while 3(6%) patients observed in open cholecystectomy group (Fig-3).

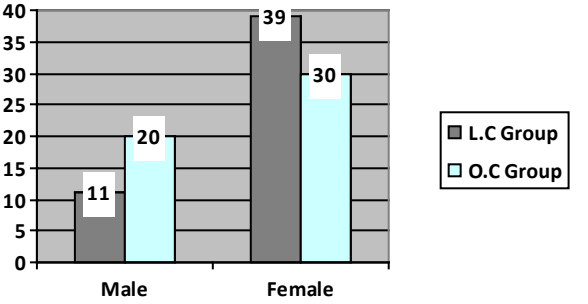

Fig-1. Showing sex distribution

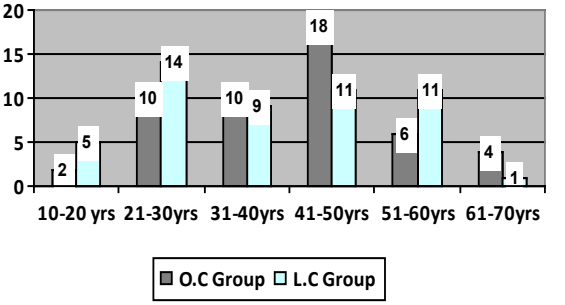

Fig-2. Age distribution

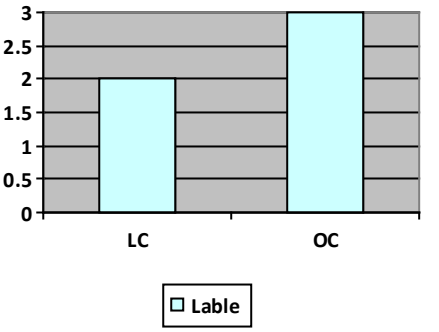

Fig-3. Bile Duct injury

DISCUSSION

Cholelithiasis is a major problem throughout the world, particullarly in adult incidence shows significant geographical and regional variation [18,19]. The morbidity and mortality associated with cholecystectomy has fallen so low in recent years not only in western countries but also in developing countries like Pakistan, where LC for the first time in 1971[20].

As surgeons gain more experience and become open biliary operations normalized , the incidence

of bile duct injuries decreases. Remained open cholecystectomy for cholelithiasis gold standard of treatment to the end of 1980, when it was introduced LC[21]. It has gained wide acceptance and became the new gold standard for the treatment of gall stones . During the surgical learning curve for the new technology was an initial increase in reports of bile duct injuries, mainly due to lack of experience and misinterpretation of surgeons anatomy[22].

Iatrogenic trauma leads to leakage of bile is well documented complication cholecystectomy[23]. Biliary leakage was defined as clinically significant biliary fistula absence of major biliary injury. The main bile duct injury is defined recognized any interruption of the main extrahepatic biliary[24].

Male to female OC group was 1:1.5 seen, compared to where the LC was 1:3.5. However, the ratio of men to women treated by Channa NA[25] 1:06 and KR Murshid[26] is 5:5.1, which is quite different from the present study.

Age ranged from 10 to 70 years for both groups had a mean age of 41.28 + 12.30 years group OC and 38.44 ± 13.50 Years Group LC (p 0.272). The peak age group for the presentation of gallstones in our work is from 20 to 50 years, which is comparable with other studies, presented in the age group of the top 33 to 44 per year[25]. However, KR Murshid showed in the age group 13-90 years with a middle-aged 48.4 years[26] and Rosen Muller M, et al showed in OC 59 years and 49 years for LC group and Meyer C et al 60 years for OC and LC 54 years for the LC group.

Biliary leakage after cholecystectomy is not uncommon. This can lead to high morbidity and mortality of peritonitis[27,28]. The incidence of bile leakage is <2%, and the incidence of serious injuries is thinner open gallbladder bile (0.2%)[29,30]. Several studies have shown that the rate is higher bile duct injury in laparoscopic cholecystectomy. In our study there occurs an injury common bile duct was 2 patients (4%) in laparoscopic cholecystectomy, while 3 patients (6%) had an open cholecystectomy group. However in the study of Farzana Memon reported the overall incidence of bile leakage was 8% (12/140); 5.1% (4/78) in cases that underwent laparoscopic cholecystectomy and 12.9% (8/62) in cases of open cholecystectomy[24].

CONCLUSIONS

Laparoscopic cholecystectomy is a safe and effective treatment for gallstones. The LC procedure has a low rate of complications and bile duct injury than OC procedure. We found bile duct injury 2(4%) patients in laparoscopic cholecystectomy group while 3(6%) patients observed in open cholecystectomy group.

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