Original Article

Over View of Laparoscopic Cholecystectomy at (SMBBMU) University Hospital Larkana 1920 Cases

1. Ghulam Hyder Rind 2. Muhammad Ayoub Jalbani 3. Atta Hussain Soomro 4. Muhammad Suhail Soomro

1. Assoc. Prof. of Surgery, Surgical Unit-I, GMMMC, Sukkur 2. Asstt. Prof.,Surgical Unit-III, 3. Prof., Surgical Unit-III 4. Senior House Officer, Surgical Unit-III, SMBBMU, Chandka Medical College, Larkana

ABSTRACT

To evaluate the safe technique in patient with cholelithiasis either simple or with acute cholecystitis and to highlight the better method in which patient can be prevented from future complication.

Study Design: Experimental Study.

Place and Duration of Study: This study was conducted at University Hospital of Shaheed Mohtrama Benazir Bhutto Medical University, Larkana with effects from Jan 2005 to Jan 2011.

Materials and Methods: Total number patient 1920 underwent lap chole, while 184 were admitted in acute state from casualty & Out Patient Department of university hospital.

Results: The mean age was 11-75 years, male & female ratio 1:3 with regard the 184 in acute cholecystitis among those patients reach to hospital within 24hours were 85, from 24-48hours were 65 patients while from 48-72 hours were 34 patients. While remaining patient were managed as elective cases.

The operative time taken in elective cases were 30 minutes but in acute cases it was 90 minutes so average time was 60 minutes.

The overall conversion rate is 2.86% but in acute case the conversion rate 8.15%. Post operative average hospital, stay remain's 1 day in elective cases but in acute Cholecystitis where conversion to open were performed the hospitalization minimum 6 maximum 7 days. The wound infection seen in 49 cases (2.8%).

Conclusion: Lap chole is a reliable and safe in management of cholecystitis either with or without cholelithiasis having simple or acute cholecystitis, while certain factors are responsible for conversion include delayed arrival more than 72 hours, empyema and bleeding while contradictory to international literature our study suggest that conversion rate is high in acute rather than elective Cholecystitis. So it is concluded that emergency lap chole is a safe and cost effective due to on time surgery and patient can be prevented from future complication. Therefore early lap chole is safe and can be performed in simple and complicated Cholecystitis while literature have proved that lap chole also safe in pregnant lady with certain limitation of like height of fundus . .

Key Words: Laparoscopic Cholecystectomy, acute cholecystitis.

INTRODUCTION

A dramatic revolution has occurred in management of gall stone disease[1] experience lap chole has gone a long way since introduction in 1987[2] it is widely accepted to be treatment of choice for calculus and acalculus cholecystitis Early lap chole has been proven superior to delayed interval lap chole in most prospect randomized trials while it is recommended to perform surgery within 72 hours of admission to minimize the complication rate and shorter duration of hospital stay[3]. The operation is routinely performed using four or three pots of entry in abdomen but recent development regarding LC have been directed towards reducing the size and number of ports to achieve the goal of minimum access surgery. Two ports lap chole has been reported in the international literature to be safe and feasible[4]. While lap chole offers benefit of less pain reduced disability, cosmetic acceptance, shortened postoperative hospital stay early return to normal activity. Despite the conversion to open Cholecystectomy the common reasons inability to define anatomy of calot's triangle due to sever adhesion, inflamed, contracted gall bladder, empyema of gall bladder and uncontrolled bleeding from cystic artery or gall bladder bed[5].

MATERIALS AND METHODS

Six years study (Jan 2005 to Jan 2011) conducted at Shaheed Mohtrama Benazir Bhutto Medical University Hospital Larkana. 1920 patients all the patient were evaluated on the basis of history physical examination, laboratory investigation and ultrasound of abdomen with special reference of hepatobillary tract and CBD size after a obtaining written consent on a prescribed Performa. Laboratory investigation including routine blood complete picture white blood cell, liver function test. Laparoscopic procedure done using standard approach involving an open technique for trochar insertion. A 10 mm trochar was placed in periumbilical are and epigastric region while two trochar of 5mm placed at right hypochondrium and right iliac region. The cystic duct clamped by yellow clip, depend upon the diameter of duct while cystic artery ligated by green clip. The operation time was calculated from the insertion of first trochar till the closure of periumbilical

wound. The hospital stay time of resumption of soft diet any complication during the surgery, postoperative stay condition of wound, amount of drain weather it contain serum/bile.

RESULTS

During the prescribed period, total 1920 patient were admitted the majority of patient 1835, throughout patient department while remaining 85 patients admitted as acute Cholecystitis with cholelithiasis through casualty department.

Male patient 499 and females were 1421, the ration of male and female 1:3. Incidence of age, small aged boy of 11 years and oldest patient having the age of 75 years admitted and operated. Peak age incidence between 41-50 years (Table-1).

With regard to duration of symptom only the 184 patients presented in acute Cholecystitis including the patients admitted through casualty and OPD. Among there acute cases the number of the patient admitted within 24 hours were 85, from 24-48 hours patient received, were 65 while from 48-72 hours received were 34 numbers of patients while remaining patients were managed as elective cases.

The ultrasound findings were straightforward cholelithiasis in 1736 patient but those admitted in emergency there ultrasound findings were such that edematous gall bladder in 48, mucocele of gall bladder in 52, pylocele of gall bladder in 10 contracted gall bladder in 40, perforated gall bladder in 05 gangren of gall bladder in 07, carcinoma of gall bladder noted 22 cases.

Problems encountered during the laparscopy were adhesion of gall bladder with colon in 26 adhesion with omentum 54, adhesion with CBD in 60 bleeding from cystic artery 54 cases, bleeding from liver bed seen in 87 minor injury to CBD 34, major injury in to CBD 29, cases calots triangle distorted 105 carcinoma of gall bladder noted 22 patient.

Operative time 30 minutes minimum in clear cases but it may go up to 90 minutes in infected case. Average the time was 60 minutes.

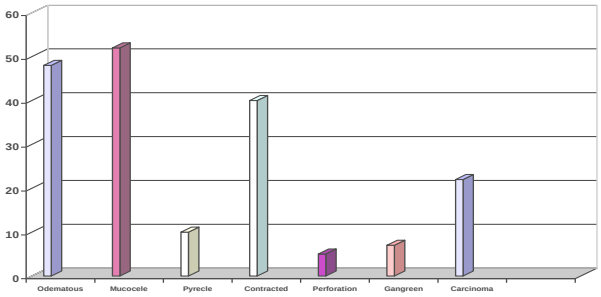
The number of lap converted to open cholecystectomy 40cases out of 1736 in elective 2.17%(40/1736) while in acute cholecystitis associated with cholelithiasis were 15 cases out of 184 cases 8.15% (15/184). Therefore over all conversion rate is 2.86% (55/1920).

Postoperative average hospitalization in elective cases were 1 day but in those cases where lap converted to open, the length of hospitalization was minimum 6 days, maximum 7 days depend on the condition of wound.

The wound infection seen in a infraumbilical port 49 cases 2.8% seen in most of acute cases while other ports remains 100% aseptic.

Table No.1: Showing the Age of Patients

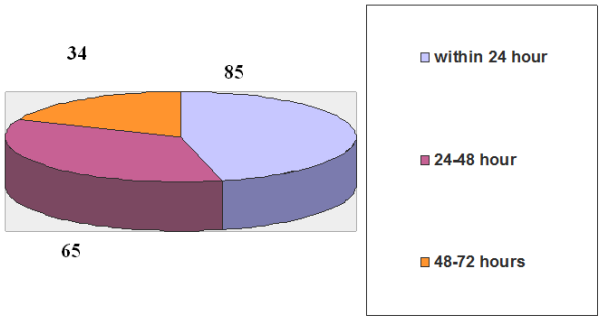
Sr.No.	Age	No of Patient	Percentage
1.	10-20	1	.192%
2.	21-30	432	22.5%
3.	31-40	570	296%
4.	41-50	639	33.2%
5.	51-60	183	9.53%
6.	61-70	60	9.5%
7.	71-75	35	2.8%



Graph Showing the Ultrasonic Findings

Table No.2: The problems encountered during laparoscopic procedure

Sr. No.	Age	No of Patient
1.	Adhesion G.B with Colon	26
2.	Adhesion G.B with Omentum	54
3.	Adhesion G.B with CBD	60
4.	Bleeding from cystic artery	54
5.	Bleeding from liver bed	87
6.	Minor injury of CBD	34
7.	Major Injury of CBD	29
8.	Distorted calots triangle	105
9.	Carcinoma of Gall Bladder	22



Pies Chart Showing Time of Arrival in Hospital in Acute Cases

DISCUSSION

In our study the mean age of patient 43 years and the female & male ratio 3:1, but as compare with world literature the age 42.9 years the female male ratio 4.5:1[3] the age ranges 38-75[3] mean age 45yreas[4-6] female male ration 2:1[7] age ranged from 10-80 years range 45years[8]. male gender and age >60 years are liable for more

complications[9]. Duration of symptom in study of three groups. group A where patient underwent for lap chole within 72 hours in group B where patient underwent for surgery between 72-96 hours in group C where patient underwent for surgery beyond 96 hours of onset of symptoms. The complication rate is highest in group where surgery is performed after 96 hours of onset of symptoms[3]. As study of Tzoravas 28% with acute Cholecystitis had there operation within first 3 days 45% between 4-7 days 27% after week onset of symptoms[11]. Its now considered as safe to do lap chole in acute cholecystitis with in 72 hours "Golden hours"[5.] While in pregnant woman, lap chole can be performed in any trimester but optimal time is operate is early second trimester which is safe[10] In our study with regard the duration of symptoms in acute cases 85/184 hospitalizes with first 24hours.

Problems encountered during surgery as seen by shabir[5] et al inability to define anatomy of clots triangle due to severe adhesion (n=2) inflammed gall bladder (n=1) contracted inflamed severely of (n=2) empyema of gall bladder (n=1) inflamed gall bladder adhesion with stomach (n=1) uncontrolled by bleeding in (n=1)[5]. In study of kitomo[12] that bilary tract injury during lap chole for acute Cholecystitis 0.7to 1.3%. In study Awis[3] 2.4% CBD injury encountered during the laparoscopy cholecystectomy. In stuy of Cheema[13] 3 bile duct injuries have been reported among 482 cases. In study of perviz[1] had the common problem uncounted include empyema of gall bladder 4 (1.18%) Failure to hold thick gall bladder wall in 3 (.88%) hemorrhage in 3 (.88%) injury to CBD in 2 (.59%)[1] while in our study the main problem encountered was the calots trainingle distorted in 105 (21.2%) and bleeding from liver bed was the second common problem 87 (17.4%) while bleeding from cystic artery 54 (10.8%) while adhesion of inflamed gall bladder with CBD was common 60 cases (12.2%) Non of our patient has iatrogenic injury to liver, stomach, except in one case the duodenum get injured. Where as biliary injury reported 7%[14,15] vascular injury to range between 4-8%[15]. While adhesion of gall bladder with omentum seen in 54 cases (10.9%). The adhesion of gall bladder with omentum was separated gently with the help of bund end of nuzzle of suction.

However distorted anatomy of calots triangle and uncontrolled bleeding from the cystic artery were the main cause of conversion. But the conversion rate in study of awis[3] 8.64% in study by Tzovares[11] the conversion rate 4.6%. Shabir the conversion rate 10.5%[5]. Pervis[1] the conversion rate 9.4%. while the conversion rate of has been reported in different studies as ranging from 2-5[16,17]. There was no significant difference found in conversion rate in emergency lap chole 24% elective lap chole 21%[7] in reported series the conversion rate 2.5%[18] and 11%[19]. The conversion rate overall in our study is 2.86% but in emergency cases it is higher than in elective case.

Operative time in study of Shabir[5] time taken 70 minutes Hawasal A[20] 70 minutes Booker[21]110 minutes but in our study operative time taken in emergency case 90 minutes but in elective cases it was 30 minutes, so the overall average was 60 minutes but it depend upon both surgery and patient factors like the experience of surgeon quality of assistance and chances of unwanted surprises wanting for surgeon like adhesion, aberrant anatomy, encountered bleeding are same for laparoscopic cholecystectomy as for as any other surgery.

Hospitalization in lap chole patient study by Awis[3] 2.85 days, study by Shabir[5] 5.2 days in infected cases while 1-3 days elective cases in study of Andrew[22] 3 days in study of atta[7] the majority of cases discharged within 24-48 hours but Serralta[10] suggests 5 days postoperative stay in lap chole. While in our study all elective cases remain stay for 24 hours but lap converted patients from 6 to 7 days.

Wound infection in study by Shabir[5] the rate of wound infected 13% while in our study, the infra umbilical port infected in 2.8% of cases but all other ports found aseptic in 100% of cases. In our study none of our patient suffered through severe morbidity and mortality.

CONCLUSION

Lap chole is a reliable and safe in management of cholecystitis either with or without cholelithiasis having simple or acute cholecystitis, while certain factors are responsible for conversion include delayed arrival more than 72 hours, empyema and bleeding while contradictory to international literature our study suggest that conversion rate is high in acute rather than elective Cholecystectomy. So it is concluded that emergency lap chole is a safe and cost effective due to on time surgery and patient can be prevented from future complication. Therefore early lap chole is safe and can be performed in simple and complicated Cholecystitis while literature have proved that lap chole also safe in pregnant lady with certain limitation of like height of fundus.

REFERENCES

1. Iqbal P, Siyal K, Siyal E. Gall stone disease an experience at Civil Hospital Karachi. Med Channel 2001;17(2): 17-21.
2. Dubois F, Lcard P, Barthelot G. Laparoscopic cholecystectomy, preliminary report of 36 cases. Ann surg 1990; 211(1):60-2.
3. Shuja A, Abid R, Abid B. Lap chole, optional timing for surgery in acute gall stone disease. Professional Med J 2011;18(2): 237-242.
4. Waqar SH, Fahad, Irshad A, et al. Two ports laparoscopic cholecystectomy. A new techanique,

case report. J Ayoub Med:coll Abbottabad 2008;20(8):167-68.
5. Shabir, Sher MB, Rajib YD, et al. Risk factors Resulting in conversion of lap chole to open cholecystectomy. Med Channel 2010;16(2):302-05.
6. Atta S, Kheo R, Saleem M, Sattar A, et al. Experience of first 100 cases of Laparoscopic surgery. JSP (Int) 2002;7(3): 47-49.
7. Atta S, Aijaz A, Khalid M. D-Bhawant Role of lap chole in the management of acute cholecystectomy. JLUMHS 2005;68-71.
8. Atta S. Creative of Pnemopertoneum by a new technique Prior to laparscopic procedure. JLUMHS 2004;3(1):17-20.
9. Bendar JS, Duncan MD, Freesqick PD, et al. Increasal laparoscopic experience does not to lead to improve result with acute cholecystitis. Am J Surg 2002;184(6):591-4 (Discussion 5).
10. Zarkadas S. Laparoscopic opproach in acute abdomin processes during pregnancy. Surg Endosc 14:2008: 80-91.
11. Tzovaras G, Zacharoulis D, Kevil P, Treodoro-poulos, et al. Timing of lap chole for acute cholecystitit, a prospective non-randomized study. World J HI 2006;12(34):552-553.
12. Kitano S, Matsumoto T, Armak M, Kawano K. Lap chole for acute cholecystectomy. J Hepatobilliary Pancreatic Surg 2002;9:534-537.
13. Cheema S, Brannigan AE, Johnson S, et al. Timing of lap chole in acute cholecystitis. Ir Med Sci 2003 172 (3):128-31.
14. Fried G, Barkum J, Sigman H, et al. Factors determine conversion to laparotomy in patients undergoing lap chole. Am J Surg 1994;167:35-41.
15. Memon W, Khanzada TW, Samad A, Leghari MH. Laparscopic cholecystectomy conversion rate and its causes at Isra university hospital Hyderabad. JPMA 2008;33-2.
16. Livingston EH, Reg RV. A nationwide study of conversion from lap chole to open chole. Am J Surg 2004;188:205-11.
17. Rosen M, Brudy F, Ponsky J. Predictive factors for conversion of lap chole.Am J Surg2002;184:254-8.
18. Khan AS, Jan WA. Comparative study of lap chole and open mini chole. JSP Int 2002;5(1).
19. Bhatti Khan AZ, Khan AR ZA. Early lap chole for acute biliray symptom is it work? PJS 2008;16:3-4 19-23.
20. Hawasali A, Lioyl LR. Lap chole learning curve report of 50 cases Am J Surg 1991:57(8):542-4.
21. Booker WM, Z Johnson A. Pnewmoperitoneum Physiological effect of Anaesthesia and analgia. 1994;2:23.
22. Andrew M, Ross Michael G. Sarr management of Major complication of lap chole. Am J Surg 1994;105:655-2.
23. Serralta AS, Bueno JL, Planells MR, et al. Postoperative evaluation of emergency versus delayed lap chole for early cholecystitis. Surg Laparosc endo sc percutan Tech 2003; 13(2):71-75.

Address for Corresponding Author:
Dr. Ghulam Hyder Rind
Associate Professor of Surgery,
Surgical Unit-I,
Ghulam Muhammad Mahar Medical College,
Sukkur.
Mobile: 0300-3299917