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TO DETERMINE THE FREQUENCY OF PER AND POST OPERATIVE COMPLICATIONS AND CONVERSION RATE TO OPEN CHOLECYSTECTOMY IN ELECTIVE LAPAROSCOPIC CHOLECYSTECTOMY

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ABSTRACT

OBJECTIVE: *To determine the frequency of per and post operative complications and conversion rate to open cholecystectomy and in elective laproscopic cholecystectomy performed in our unit.*
DESIGN: *Prospective observational study*
DURATION AND PLACE: *All the patients who underwent elective laproscopic cholecystectomy from March 2002 to March 2006, at 40 bedded Surgical Unite IV, Civil hospital Karachi.*
PATIENTS AND METHODS: *All patients who underwent elective laproscopic cholecystectomy were included in the study.*
RESULTS: *Per operative complications were encountered in 10(1.6%) patients. The conversion rate was 14(2.2%). Post operative complications i.e., bile leakage in 2(0.3%) patients, absence of gut sounds beyond 12 hours 36(5.7%),> 5 vomiting 42(6.7%) pts, wound infection 10 (1.6%) and bile leakage alongwith vomiting, ileus and wound infection in 1(0.16%).*
The mean post operative hospital stay was 1.9 days.
CONCLUSION: *The relative frequencies of pre- operative and post –operative complications compare favourably with other national and international studies reflecting that laparoscopic cholecystectomy is safe when performed by experienced surgeons. We suggest that establishment of day-care units with the introduction of day-only laparoscopic cholecystectomy at public sector hospitals, as indicated by the recent studies, is not only feasible but also desirable. This will reduce the overall cost of treatment for these very common*

KEY WORDS: laparoscopic, Cholecystectomy, Per operative,Post operative, complications.

INTRODUCTION:
Gall stones are one of the most common digestive disorders and cholecystectomy is the most commonly performed abdominal surgery[1,2]. They may present with biliary colic, acute or chronic cholecystity[1,3,4], cholangitis, pancreatitis and obstructive jaundice. Open cholecystectomy remained in vague until the last decade when gallbladder surgery was revolutionized by introduction of laparoscopic cholecystectomy.
Laparoscopic cholecystectomy is certainly less invasive but the question is “Are we safe enough?”
Shorter Hospital stay, less post operative pain, improved cosmesis and early return to routine activities have led to the popularity of the technique. It has emerged as the new gold standard. However, some studies criticized laparoscopic cholecystectomy due to high incidence of bile duct injuries, haemorrhage and bowel injuries[5,6] in comparison to open cholecystectomy.
The purose of this study is to determine frequencies of per operative and post operative complications, conversion rate to open cholecystectomy and the mean duration of hospital stay in our practice.

MATERIAL AND METHODS:
This prospective descriptive study conducted from March 2002 to March 2006 comprised

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of 624 patients who underwent elective laparoscopic cholecystectomy performed by a consultant or higher level surgen at Surgical Unite IV Civil Hospital Karachi, All the patients preoperatively diagnosed to be suffering from cholelithiasis and chronic cholecystitis on the basis of history, examination, laboratory analysis and ultrasonological findings were included in the study.

Patients following successful conservative management for acute cholecystitis (6 weeks ago or longer) and acute pancreatitis were also included. Patients hving choledocholithiasis who had prior successful endoscopic clearance of ductal calculi were also included.

Patients with choledocholithiasis, obstructive jaundice, emergency, cholecystectomy, acute cholecystitis, uncontrolled bleeding disorder, pregnancy, previous upper abdominal surgery and age less than 12 years were excluded formthe study. Routine laboratory analysis like full blood count, random blood sugar, urea, creatinine electrolytes, Chest radiography, ECG (when indicated).LFT's proghrombin (where indicated), hepatitis B surface antigen and anti HCV were done. All the patients were followed from their admission to six weeks after discharge from the ward. During surgery, standard four-port techinique with Americal approach and method of dissection was Edinburgh method. Each patient's complete history, Ultrasound finding, pre operative and post operative complications, conversions rate, duration of post operative hospital stay and mortality were recorded on performa.

RESULTS:

A total of 624 patients were evaluated during the study period. The mean age at the time of operation was 41.32 years, 19% were under the age of 30, 26 & 26.9% in fourth and fifth decade, 14% in sixth and only 7.7% were older than 60 years. 96.3% were female and 6.45 were male suggesting a ratio of 1:14.6.

Regarding pre operative complications, uneventful surgery was observed in 98.1%, bile duct injury (0.8%) Haemorrhage occurred in 5(0.8%), which however, was controlled laparoscopically in 3. 2 (0.3%) patients presented after about weeks of surgery with faeculent discharge from epigastric port and were managed conservatively.

Conversion was 18(2.8%). Damage to bile duct necessitated conversion in 5(0.8%), adhesions and inflammation led to difficulty in dissection in 10(1.6%) and in one patient dialted cystic duct containing stones led to clipping failure.Due to uncontrolled haemorrhage in 2 patients, conversion was nesecessitated. Post operative bile leakage was encountered in 2(0.3%) patients which gradually subsided and disappeared uneventfully. Absence of gut sounds for more than 12 hours was noted in 36(5.7%) patients and more than 5 vomiting in 42(6.7%), patients, 10(1.6%) patients suffered would infection, umbilical port site was infected in 4, one of whom presented with incisional post Hernia afterwards.. 2(0.3%) patients presented with faeculent discharge about three weeks after surgery from epigastric port and were successfully in 532(85.2%) cases.

There was no mortality during the study period in elective laparosopic surgery. Regarding post operative hospital stay, 248(39.7%) were discharged within first 24 hours of operation, (30.8%) 192 with in 24 to 36 hours and 124 (19.9%) within 36 to 48 hours, so 90.4%(564) patient were discharged within 48 hours of operation. The remaining 9.6% (6.00patients had a more prolonged duration of hospital stay.

AGE

AGE	PERCENTAGE
<30	19%
30-40	26%
40-50	62.9%
50-60	14%
>60	7%

PER - OPERATIVE COMPLICATIONS

Bileduct Injury	5	.8%
Haemorrhage	5	.8%
Faeculent Discharge	2	.3%

POST- OPERATIVE COMPLICATIONS

Bile Leakage + vomiting + Ileus	1(0.16%)
Wound Infection	10(1.6%)
Vomitin > 5 episodes	42(6.7%)
Absent gut sounds > 12h	36(5.7%)
Bile leakage	2(0.3%)

DISCUSSION

The undisputed benefits of laparoscopic cholecystectomy render it the procedure of choice for symptomatic cholelithiasis. The age range for cholelithiasis by Mathsen was 18-76 years[9]. and Akhtar 22-67 year[10] which corresponds to our study which showed it between 18-75 yers of age.

Symptomatic gall stone disease predominatly affects females. The study by Akhtar etal reported that 91% of patients were females[10]and this is comparable to our observation. Bile duct injuries induced by laparoscopic cholecystectomy have been observed ascribed as health and financial disaster with mortality rate of 9%[6,11,12] Mathsen[9]. reported bile duct injuries in 5% to 6% and in our study it happened in 5(0.8%) cases only. Vascular injuries are also encountered more frequently in laparoscopic cholecystectomy[7,9,10,13]. Reported incidence range is 1-2%[8,17] compared to our study i.e. 5(0.8%) 2 patients (0.3%) developed faeculent discharge from epigastric port signifying bowel injury which is comparable to result by Immnof with an incidence of 0.5% [(7)]. Graham [(14)], observed a conversion rate of 5.3%. Severe inflammation and dense adhesions being the most common reasons for conversions [14], Baloch and Jaffer report 4% conversion rate [(13)], Majeski. [(15)] reported about 3.6%. In our study 2.8% needed conversion and this is camparable to literature Bile leakage after laparoscopic cholecystectomy is four times more frequent than transaction injuries. In a study by Akhtar bile leakage was observed in 4% of patients [10] In our study this complication was recognized in 2 (.32%) of patients.

Most studies reported wound infection in

a range between 2.3% [10, 13, 17]. Our result showed 10 (1.6%) patients which is similar and infact lower than some studies. Post operative nausea and vomiting are recognized factors causing patient discomfort and subsequent delay in discharge from hospital [12, 18]

Patients undergoing elective laparoscopic cholecystectomy have relatively higher incidence of postoperative nausea and vomiting [18,19] (25% - 72%). In our study this was observed in only 6.7% of cases. Delayed return of bowel sounds was recorded in (5.7%) of patients which correlates well with findings by Bilal and Chen and Noorani [5,20]. There was no postoperative haemorrhage and mortality in our study which compares favourably with several other studies. Short hospital stay has been adopted by various centres and as well as our ward for laparoscopic cholecystectomy which has financial benefits both for hospital and patients. Average hospital stay ranges from 2 to 10 days [16,18]. Different studies [19,20] advocate it to be same day surgery followed by discharge as there is no advantage in detaining patient for more than 24 hours post operatively. However these goals are yet to be attained in our settings.

CONCLUSIONS

The results obtained in this study reflect that:

- The relative frequencies of pre-operative and post –operative complications compare favourably with other national and international studies reflecting that laparoscopic cholecystectomy is safe when performed by experienced surgeons.
- We suggest that establishment of day-care units with the introduction of day-only laparoscopic cholecystectomy at public sector hospitals, as indicated by the recent studies, is not only feasible but also desirable. This will reduce the overall cost of treatment for these very common

REFERENCES

1. Beckingham IJ. ABC of diseases of liver, pancreas and biliary system. BMJ 2001:32.2:91-4
2. Guzman. Pathology lecture summary. (Online) 2004 Jan (cited 2005 Jan 8) available from URL;
3. Allen J. Cuschien A. Cholelilithiasis. (Online) 2004 Aug (Cited 2004 Dec. 5) Available from URL: http:// www.@medicine.com/med/topic836.htm.
4. Buckingham BK. Laparosopic cholecystectomy when things go wrong (online) 1999 (cited 2004 Dec. 15). Available from URL: http://www.medmad-law.com/lapcholy/article.html.
5. Noorani MA, sheikh M. Sial 1.Laparoscopic versus open cholecystectomy A-comparative study of 200 cases of Jcon physician surg. Pavc 1997:7:17-9
6. Buell JF, cronin DC, Fonaki B. KoffianA, Yoshidat, LOA, Ctal. Devastaing and fatal complications associated when combined vascular and bile duct injuries during cholecystectomy, Archsirg. 2002: 137.703-10).
7. Immnof M, Zachen J, RaiSA, LiporacM, Jackes 2 R. Fuegger R. Teodmy laparoscopic cholecystectomy Do beginners adversely affect the out care of the operative Eur J Serg. 2002; 168: 470-4.
8. Haque Z. Rahman M. Siddiqui MA, Royrk, Chowdhary RA, Rahman MM, etal. Metabolic and stress responses of the body to trauma. Produced by the laparosopic and open cholecystectomy.. My mensingh Med. J 2004;13: 48-52.
9. Mathisen O, Soried eo, Bergan A. Laparoscopic cholecystectomy Bile duct and vascular injuries. Management and outcome scand J Gastroenterology 2002; 37; 476-81.
10. Akhtar S. Kamran A. Aslam MN, Ali AA. Gorda KM. Chodhary AM.A comparative study of laparoscopic versus mini cholecystectomy. AnnKE Med.
11. Mathisen O, Sorerde O'Bergan A. Laparoscopic cholecystectomy, bile duct and vascular injuries management and outcome. Scand J Gastroenterology 2002; 37: 476-81.
12. Gottlieb S. Injury to bile duct during cholecystectomy nearly triples risk of death BMJ 2003: 327:946
13. Baloch MA, Jaffer AJ. Laparoscopic cholecystectomy in Pak JS 1998: 14: 66-8.
14. Graham DM laparoscopic cholecystectomy (online) 1998-2005 (Cited 2005 Jan 6) Available from : URL:
15. Majeski J. Laparoscopic cholecystectomy in geriatric patients AMJ Surg. 2004; 18-747-50
16. Capizzi FP, Foglil, Brulalti M. Boschi S, Di DomenicoM, papav, etal (Abstract of conversion rate in laparoscopic cholecystectomy : evolution from 1993 and currnt states J. Laparo, endoscope Adv. Surg. Tech A. 2003; 13:89-91) (online) Electronic)
17. Garden AG complications of laparoscopy (online) 2003 Aug. 13 (cited 2005 Mar) Available from URG.
18. Quaynor H. Raeder JC. Incidence and severity of post operative nausea and vomiting are similar after metoclopramide 20 mg and sandostatin 8 mg given by end of laproscopic cholecystectomy. Acta Anesthestal Scand 2002 : 46:109-13.
19. Critchlow JT. Paugh LM 15 24 hours observation necessary after elective laparoscopic cholecystectomy? Southen medical Journal 1999;92: 1089-92
20. Blatt A. Chen S. Day only laparoscopic cholecystectomy ANZ J Serg 2003; 73: 321-5