



STUDY OF INCIDENCE OF POST CHOLECYSTECTOMY PAIN AFTER LAPAROSCOPIC CHOLECYSTECTOMY IN PATIENTS OF CHOLELITHIASIS IN A TERTIARY CARE HOSPITAL OF CHHATTISGARH STATE

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ABSTRACT

Post Cholecystectomy syndrome is defined as the recurrence of symptoms similar to those experienced before the Cholecystectomy. Laparoscopic Cholecystectomy has established advantage over the open technique but post cholecystectomy symptoms also has a significance occurrence after Laparoscopic technique. The purpose of my study was to study the Post Cholecystectomy symptom of pain after Laparoscopic Cholecystectomy in patients of cholelithiasis and its association with various factors. The purpose of the study was to evaluate Post Cholecystectomy symptom of pain and to evaluate risk factors responsible for it. This prospective observational study was conducted in department of surgery Pt. J. N. M. Medical college and Dr. B. R. A. M Hospital Raipur. 50 cases were studied who underwent Laparoscopic Cholecystectomy for cholelithiasis after taking proper consent and were followed up for 1 month. Incidence of Post Cholecystectomy symptom of pain after Laparoscopic Cholecystectomy on day 30 is about 10% with female dominance. It is higher in those patients who had the symptom in pre-operative period and also higher incidence in patients who had difficult complicated Cholecystectomy.

KEYWORDS : Cholelithiasis, Post Cholecystectomy syndrome, Laparoscopic Cholecystectomy.

INTRODUCTION

Since its introduction by Muhe in 1986, Laparoscopic Cholecystectomy has rapidly gained popularity. It is now considered the treatment of choice for symptomatic gallstones disease. With varied advantages over laparotomy, Laparoscopic cholecystectomy is an established successful operation which provides total relief of preoperative symptoms in more than 90% of patients.

Post-Cholecystectomy syndrome is defined as the recurrence of symptoms similar to those experienced before the Cholecystectomy. This usually takes the form of upper abdominal pain (mainly right upper quadrant) and dyspepsia, with or without jaundice. The incidence of Post-Cholecystectomy symptoms has been reported to be as high as 40%, and the onset of symptoms may range from 2 days to 25 years. (3,4) There may also be gender-specific risk factors for developing symptoms after Cholecystectomy thereby necessitating a need to Study Post Cholecystectomy symptoms after Laparoscopic Cholecystectomy in patients of cholelithiasis.

MATERIAL AND METHOD

This prospective observational study was conducted in department of surgery Pt. J. N. M. Medical college and Dr. B. R. A. M Hospital Raipur. 50 cases were studied who underwent Laparoscopic Cholecystectomy for cholelithiasis after taking proper consent and were followed up for 1 month. In order to study the varied presentations of Post-Cholecystectomy pain, a prospective observational study was designed. The patients were recruited from the Surgery department at Dr. B.R.A.M. Hospital in Raipur from a period of January 2016 to September 2017.

Study was approved by local ethical committee. Local informed consent was obtained from all the participating patients after explaining the purpose of the study. A qualitative approach was used to engender a deeper understanding of patients experiences of having gallstone problems as well as their experiences of Laparoscopic surgery the day of operation and the first

Postoperative week and follow up at the end of first month.

INCLUSION CRITERIA

1. All patients who gave their consent for the study.
2. All patients of either sex above the age of 15 yrs who underwent Cholecystectomy by Laparoscopic method in Dept. of Surgery for cholelithiasis

EXCLUSION CRITERIA

1. All patients of gall stone disease of less than 15 yrs of age
2. Patients who lost to follow up
3. Patients who didn't consent for study
4. Patients diagnosed to have biliary malignancy

DISCUSSION

Laparoscopic Cholecystectomy (LC) has become gold standard now. LC has shown clear benefits in terms of shortened hospital stay, less morbidity, mortality, a quicker return to work and with cosmetic advantage. Many patients, however, are dissatisfied with the procedure because of lack of improvement or relapse of symptoms initially attributed to the presence of gall stones or because of the emergence of new gastrointestinal complaints presumably related to the operation. In our study we observed such recurrences of symptoms after Laparoscopic Cholecystectomy and followed them till 1 month after the surgery.

In our study maximum no of patient who underwent Laparoscopic Cholecystectomy belongs to age group 31 to 40 year is 30% with Female case predominant over male case who underwent LC with 38% of male and 62% of female. The Male:female ratio 1:1.63. These findings are similar to observations made by **Raed Jawad Witwit, Aws Khidir Jassim et al (2014)** and **Muhammad Rafiq et al 2011** and **Jeremy M. et al 2007** where the mean age of patients was 38 years and male:female ratio was 1:4. **Adnan Mehraj et al 2011** and **Hari et al 2015** reported a male percentage of 11% and 14% respectively, whereas **Ajay Anand et al Study 2007** reported female preponderance with male:female ratio 1:9

Most of patient presented with complain of abdominal pain 64.2% pain was mild burning type occur mostly in right hypocondrium and epigastric area associated with fullness of upper abdomen. Six percent patient also complaining of vomiting and nausea on and off. Among 67 patients only 4.5% patients presented with fever on and off In our study out of total 50 patients who underwent LaparoscopicCholecystectomy –

- 46 patients (92%) experienced pain on Post-op day 1. Out of this 18 (39%) were male patients and 28 (61%) were female patients.
- 16 patients (32%) still had pain on Post-op day 7. Out of this 8 (50%) were male patients and 8 (50%) were female patients.
- 5 patients (10%) had pain on Post-op day 30. Out of this 2 (40%) were male patients and 3 (60%) were female patients

Cajsa Barthelsson et al reported on pain during first Postoperative day. Pain (93%) were reported by the patients on Postoperative day 1. These symptoms were also most frequently reported after one week 28%. After one month, pain reported was in 10% of patients.**In Cason et al** showed that 85% of their patients reported pain the day of LC surgery and somewhat fewer 81% reported pain on Post-op day 1. The relief of pain after LC has been reported to be 92%.**In Kehlet et al.** state that 2-10% of their patients Postoperatively developed long term pain. Niranjana B1, Chumber S, Kriplani AK et al Biliary pain was relieved in 99% of patients after Laparoscopic Cholecystectomy (p < 0.001) after 6 months. Thereby concluding results of our study are comparable with other studies showing cure rate of about 82% at the end of 1 month as compared to Post operative day one.

Out of the 50 patients selected for the study, the occurrence of pre-op symptoms and Post-op symptoms on day 1 and day 30 total patients who had complicated LaparoscopicCholecystectomy (n= 8) were -

Abdominal pain in 5 patients in pre-op period, 8 patients (100%) had abdominal pain on Post-op day 1 and 5 patients (62%) had abdominal pain on Post-op day 30.

Total number of patients who had undergone uncomplicated Laparoscopic Cholecystectomy were 42. 26 patients had complaint of abdominal pain in pre-op period, 38 patients (90%) had abdominal pain on Post-op day 1 and none (0%) had abdominal pain on Post-op day 30 In Ure BM1, Troidl HThe percentage of patients with biliary colic was reduced from 82.9 per cent before to 6.4 per cent after LaparoscopicCholecystectomy (P < 0.05). In P Gharde, P Muntode et al found that abdominal pain were present in 58 patients and were relieved in 52 patients (89%) after LC surgery, persisting in only 6 patients. In Karmacharya A,1 Malla BR et al In all patients with typical pain complete relief of symptoms were observed within one week Post-operatively

- Out of 8 patients who underwent complicated Laparoscopic Cholecystectomy, 5 patients had abdominal pain as their pre-op symptom and all 8 pts had abdominal pain on day 1 and 5 patients had abdominal pain on day 30 giving cure rate of about 38%..
- Persistence of abdominal pain in 62% cases undergoing complicated Laparoscopic Cholecystectomy at the end of day 30 can be attributed to intra-op complications mainly adhesions in 5 cases, hemorrhage in 1 case, pericystic fluid in 1 case and bile duct injury in 1 case
- Persistence of symptoms can also be attributed to presence of symptom in pre-op period in 5 out of 8 cases i.e 62%

RESULT

1) AGEWISE DISTRIBUTION

In our study out of total 50 patients, maximum patients were of age group 31-40 years [15 patients (30%)] of them 19 were male and 31 females.

	Frequency	Percent
11-20	4	8.0
21-30	6	12.0
31-40	15	30.0
41-50	13	26.0
51-60	6	12.0
61-70	3	6.0
71-80	3	6.0
Total	50	100.0

Table.1 AGEWISE DISTRIBUTION

2) PRE-OP DISTRIBUTION OF PAIN

Out of the 50 patients selected for the study –

- Abdominal pain was most common pre-operative symptom observed in 31 patients (62%)
- 14 patients (45%) were male and 17 patients (55%) were female.

	ABDOMINAL PAIN
MALE	14 (45%)
FEMALE	17 (55%)
TOTAL	31 (62%)

Table no. 2 PRE-OP SYMPTOM OF PAIN

3) POST-OP SYMPTOM OF PAIN ON DAY 1

In our study out of total 50 patients who underwent Laparoscopic Cholecystectomy –

- 46 patients (92%) experienced pain on Post-op day 1. Out of this 18 (39%) were male patients and 28 (61%) were female patients.

	POST-OP SYMPTOM ON DAY 1
	ABDOMINAL PAIN
MALE	18 (39%)
FEMALE	28 (61%)
TOTAL	46 (92%)

TABLE NO. 3 POST-OP SYMPTOM ON DAY 1

4) POST-OP SYMPTOM OF PAIN ON DAY 7

In our study out of total 50 patients who underwent Laparoscopic Cholecystectomy –

- 6 patients (32%) still had pain on Post-op day 7. Out of this 8 (50%) were male patients and 8 (50%) were female patients.

	POST-OP SYMPTOM ON DAY 7
	ABDOMINAL PAIN
MALE	8 (50%)
FEMALE	8 (50%)
TOTAL	16 (32%)

TABLE NO. 4 POST-OP SYMPTOMS ON DAY 7

5) POST-OP SYMPTOM OF PAIN ON DAY 30

In our study out of total 50 patients who underwent Laparoscopic Cholecystectomy –

- 5 patients (10%) still had pain on Post-op day 30. Out of this 2 (40%) were male patients and 3 (60%) were female patients.

	POST-OP SYMPTOM ON DAY 30
	ABDOMINAL PAIN
MALE	2 (40%)
FEMALE	3 (60%)
TOTAL	5 (10%)

TABLE NO. 5 POST-OP SYMPTOMS ON DAY 30

- On comparing abdominal pain between Day 1 and Day 30 Post-operatively by Wilcoxon Signed Ranks Test, Z value is found to be -6.325 and p value is 0.000 which is highly significant, showing there is significant decrease in abdominal pain.

6) COMPARISON BETWEEN PRE-OP AND POST-OP SYMPTOM OF PAIN IN COMPLICATED LAPAROSCOPIC CHOLECYSTECTOMY

Out of the 50 patients selected for the study, the following were the occurrence of pre-op symptom of pain and Post-op symptom of pain on day 1 and day 30 in patients who had undergone complicated Laparoscopic Cholecystectomy. Total no. of Patients who had complicated Laparoscopic Cholecystectomy were 8 (5 patients had adhesions, 1 patient had peri-cystic fluid, 1 patient had hemorrhage and 1 patient had bile duct injury).

5 patients (62.5%) had pre-op symptom of pain, 8 patients (100%) had pain on post-op day 1 and 5 patients had pain on post-op day 30.

	COMPLICATED CHOLECYSTECTOMY
	ABDOMINAL PAIN
PE-OP	5 (62.5%)
POST OP DAY 1	8 (100%)
POST OP DAY 30	5 (62.5%)

TABLE NO. 6 : COMPARISON BETWEEN PRE-OP AND POST-OP SYMPTOM OF PAIN IN COMPLICATED LAPAROSCOPIC CHOLECYSTECTOMY

On comparing abdominal pain as Pre-operative symptom and on Post-Op Day 30 in complicated Laparoscopic Cholecystectomy by Wilcoxon Signed Ranks Test, were found to be insignificant, showing there is no significance

7) COMPARISON BETWEEN PRE-OP AND POST-OP SYMPTOM OF PAIN IN UNCOMPLICATED LAPAROSCOPIC CHOLECYSTECTOMY

Out of the 50 patients selected for the study, the following were the occurrence of pre-op symptom of pain and Post-op symptom of pain on day 1 and day 30 in patients who had undergone uncomplicated Laparoscopic Cholecystectomy. Total no. of Patients who had uncomplicated Laparoscopic Cholecystectomy were 42.

- 26 patients (62%) had pre-op symptom of pain, 38 patients (90%) had pain on post-op day 1 and 0 patients had pain on post-op day 30

	UNCOMPLICATED CHOLECYSTECTOMY
	ABDOMINAL PAIN
PRE-OP	26 (62%)
POST OP DAY 1	38 (90%)
POST OP DAY 30	0 (0%)

TABLE NO. 7: COMPARISON BETWEEN PRE-OP AND POST-OP SYMPTOM OF PAIN IN UNCOMPLICATED LAPAROSCOPIC CHOLECYSTECTOMY

On comparing abdominal pain as Pre-operative symptom and on Post-Op Day 30 in uncomplicated Laparoscopic Cholecystectomy by Wilcoxon Signed Ranks Test, Z value is found to be -4.747 and p value is 0.000 which is highly significant, showing there is significance

8) COMPARISON OF POST OPERATIVE SYMPTOMS BETWEEN COMPLICATED AND UNCOMPLICATED LAPAROSCOPIC CHOLECYSTECTOMY ON POST-OP DAY 1

Out of the 50 patients selected for the study, the following were the occurrence of Post-op symptoms on day 1 in patients who had undergone complicated (n=8) and uncomplicated (n=42)

Laparoscopic Cholecystectomy.

- 38 patients (90%) who had undergone uncomplicated Laparoscopic Cholecystectomy had complaint of abdominal pain on Post-op day 1 as compared to 8 patients (100%) who had complicated Laparoscopic Cholecystectomy.

	POST OP SYMPTOM ON DAY 1
	ABDOMINAL PAIN
UNCOMPLICATED CHOLECYSTECTOMY	38 (90%)
COMPLICATED CHOLECYSTECTOMY	8 (100%)

TABLE NO. 8 : COMPARISON OF POST OPERATIVE SYMPTOMS BETWEEN COMPLICATED AND UNCOMPLICATED LAPAROSCOPIC CHOLECYSTECTOMY ON POST-OP DAY 1

- On comparing abdominal pain between complicated and uncomplicated Laparoscopic Cholecystectomy on Post operative Day 1 by Wilcoxon Signed Ranks Test, Z value is found to be -1.018 and p value is 0.309 which is nonsignificant, showing there is no significance.

9) COMPARISON OF POST OPERATIVE SYMPTOMS BETWEEN COMPLICATED AND UNCOMPLICATED LAPAROSCOPIC CHOLECYSTECTOMY ON POST-OP DAY 30

Out of the 50 patients selected for the study, the following were the occurrence of Post-op symptoms on day 30 in patients who had undergone complicated (n=8) and uncomplicated (n=42) Laparoscopic Cholecystectomy.

- None of the patients who had undergone uncomplicated Laparoscopic Cholecystectomy had complaint of abdominal pain on Post-op day 30 as compared to 5 patients (62%) who had complicated Laparoscopic Cholecystectomy.

	POST OP SYMPTOM ON DAY 30
	ABDOMINAL PAIN
UNCOMPLICATED CHOLECYSTECTOMY	0%
COMPLICATED CHOLECYSTECTOMY	5 (62%)

TABLE NO. 9 : COMPARISON OF POST OPERATIVE SYMPTOMS BETWEEN COMPLICATED AND UNCOMPLICATED LAPAROSCOPIC CHOLECYSTECTOMY ON POST-OP DAY 30

- On comparing abdominal pain between complicated and uncomplicated Laparoscopic Cholecystectomy on Post operative Day 30 by Wilcoxon Signed Ranks Test, Z value is found to be -5.346 and p value is 0.000 which is highly significant, showing there is significance.

CONCLUSION

Incidence of Post Cholecystectomy symptom of pain after Laparoscopic Cholecystectomy on day 30 is about 10% with female dominance. It is higher in those patients who had the symptom in pre-operative period and also higher incidence in patients who had difficult complicated-Cholecystectomy.

REFERENCES

- Hussain A, Ahmed MN, Zargar HU. Gall stones: A clinical study in Kashmir. Indian J Surg. 1984;156-60.
- Esten H. SSAT Patients Care Guidelines. J Gastrointest Surg. 2007.
- Everson GT. Gallbladder function in gallstone disease. Gastroenterol Clin North Am. 1991;20(1):85-110.
- Jorgensen T. Gallstones. An epidemiological investigation. Dan Med Bull. 1990;37(4):336-46.
- Tanaka M, Ikeda S, Nakayama F. Change in bile duct pressure responses after cholecystectomy: loss of gallbladder as a pressure reservoir. Gastroenterology. 1984;87(5):1154-9.
- Thune A, Saccone GT, Scicchitano JP, Toulli J. Distension of the gall bladder inhibits sphincter of Oddi motility in humans. Gut. 1991;32(6):690-3.
- Jazrawi S, Walsh TN, Byrne PJ, Hill AD, Li H, Lawlor P, et al. Cholecystectomy and

- oesophageal reflux: a prospective evaluation. *Br J Surg.* 1993;80(1):50–3.
8. Vander Velpen GC, Shimi SM, Cuschieri A. Outcome after cholecystectomy for symptomatic gall stone disease and effect of surgical access: laparoscopic v open approach. *Gut.* 1993;34(10):1448–51.
 9. Black NA, Thompson E, Sanderson CF. Symptoms and health status before and six weeks after open cholecystectomy: a European cohort study. ECHSS Group. European Collaborative Health Services Study Group. *Gut.* 1994;35(9):1301–5.
 10. McMahon AJ, Ross S, Baxter JN, Russell IT, Anderson JR, Morran CG, et al. Symptomatic outcome 1 year after laparoscopic and minilaparotomy cholecystectomy: a randomized trial. *Br J Surg.* 1995;82(10):1378–82.
 11. Middelfart HV, Kristensen JU, Laursen CN, Qvist N, Hojgaard L, Funch-Jensen P, et al. Pain and dyspepsia after elective and acute cholecystectomy. *Scand J Gastroenterol.* 1998;33(1):10–4.