



A STUDY OF POST CHOLECYSTECTOMY SYNDROME IN PATIENTS UNDERGOING CHOLECYSTECTOMY FOR SYMPTOMATIC CHOLELITHIASIS

Dr. Vinanti Naik

Postgraduate Student, Department of Surgery, Gajraraja Medical College, Gwalior, MP, India

Dr. Madan Mohan Mudgal*

Associate Professor, Department of Surgery, Gajraraja Medical College, Gwalior, MP, India *Corresponding Author

Dr. Rakesh Darbar

Assistant Professor, Department of Surgery, Gajraraja Medical College, Gwalior, MP, India

Dr. Vinayak Shukla

Postgraduate student, Department of Surgery, Gajraraja Medical College, Gwalior, MP, India

ABSTRACT

Background: Post cholecystectomy syndrome (PCS) is defined as a complex of heterogeneous symptoms which recur and/or persist after cholecystectomy. These symptoms consist of abdominal pain, dyspepsia, heartburn, jaundice. The diagnosis of post cholecystectomy is primarily made clinically based on sign and symptoms. PCS has been shown to be very common in our region but still there is relatively lack of data regarding it. Aim of our study is to know the incidence and various symptoms of PCS. **Aims:** To study the incidence and symptoms of Post cholecystectomy syndrome. **Material and methods:** The prospective study was conducted on 76 patients of symptomatic cholelithiasis. After elective cholecystectomy, follow-up of patients was done by outpatient basis and symptom profile of patient is recorded and compared with pre operative symptoms. **Results:** Incidence of post cholecystectomy syndrome in our study is 25% which is similar to many studies done before. Most of the symptoms after cholecystectomy significant improvement and out of it fatty food intolerance showed maximum improvement followed by vomiting, pain, bloating, heart burn, nausea and abdominal fullness. **Conclusion:** On the basis of the results obtained from this study we concluded that incidence of post cholecystectomy syndrome is 25% with mean age of 40.4 years, 75% of patients showed improvement of symptoms after cholecystectomy. Thus cholecystectomy is considered gold standard for symptomatic gall stone disease.

KEYWORDS : Post cholecystectomy syndrome (PCS), cholelithiasis, elective cholecystectomy

INTRODUCTION

One of the most common gastrointestinal conditions that strains the healthcare system is cholelithiasis. Despite the fact that the majority of gallstones are asymptomatic, sometimes serious consequences arise. The symptoms are abdominal pain, bloating, fatty food intolerance, diarrhea, constipation, heartburn, indigestion.

Cholelithiasis is managed with three treatment options namely open, mini incision and laparoscopic surgery and it benefits most of the symptomatic patients^(1,2).

Laparoscopic cholecystectomy was introduced by Mouret in 1987⁽³⁾ and now it is considered gold standard for symptomatic gallstone disease.

While cholecystectomy is the best treatment for symptomatic gallstones, many studies show that a large number of patients still have persistence of same symptoms after cholecystectomy.

In 1947, Womac and Crider first described PCS, defining it as recurrence of symptoms similar to those experienced before the cholecystectomy. The symptoms can be continuation of old or newly started one. PCS arises due to bile flow change as there is decrease in reservoir function which lead to altered enterohepatic circulation.

Biliary manifestations of PCS may occur in early in postoperative period, usually because of incomplete surgery (retained stone in cystic duct remnant or in common bile duct) or operative complications such as bile duct injury. Later onset is commonly caused by inflammatory scarring stricture involving sphincter of oddi or the common bile duct.

The traditional imaging approach includes ultrasound, CT scan followed by direct cholangiography. Manometry of sphincter of oddi and biliary scintigraphy can also be done.

The incidence of postcholecystectomy syndrome has been reported to be as high as 40% in one study and the onset of symptoms may range from 2 days to 25 years^(7,8). In one study, the incidence among female patients was 43%, compared to 28% among male patients⁽⁹⁾. Furthermore there is no local data regarding the PCS yet.

The aim of this study is to know the incidence of Postcholecystectomy syndrome after elective cholecystectomy in symptomatic cholelithiasis. The study was done among 76 patients. Patients underwent cholecystectomy and followed up in surgery OPD to see the persistence of symptoms. We have also highlighted the symptoms which showed better cure rates.

AIMS AND OBJECTIVES

1. To study the incidence of Post cholecystectomy syndrome.
2. To study the symptoms of Post cholecystectomy syndrome.

MATERIAL AND METHODS

The study was conducted on 76 patients who were admitted between October 2020 to October 2022 with symptomatic cholelithiasis in J.A Group of Hospitals and GR Medical College Gwalior (M.P).

All of them were planned for cholecystectomy electively. USG was done in all patients to confirm the diagnosis of cholelithiasis. A detailed pre operative clinical examinations and investigations was done.

The symptom profile of patients were evaluated before surgery. A standard proforma regarding characteristics of pain (site, duration, frequency, quality and periodicity), other symptoms of dyspepsia like nausea, vomiting, heartburn, fatty food intolerance, abdominal fullness and colonic symptoms like bloating and constipation. A Proforma was given to patients before the procedure and 6 months after the procedure. Follow-up of patients was done by outpatient basis.

Statistical Analysis

- The data presents as mean +/- Standard test.
- The qualitative data compared using chi square test.
- The quantitative data compared using student's t test.
- The level of significance was taken at 5%.

OBSERVATION AND RESULTS

Seventy six patients were taken up for the study out of them sixteen patients were lost during follow up so finally only sixty patients completed this study. Pre-operatively fifty females and twenty six males were included in study with median age of 38.91.

Table 1: Gender distribution of study population

Gender	Frequency	Percent
Female	50	65.8
Male	26	34.2
Total	76	100

Table 2: Age distribution

Mean	38.91
Median	38.00
Std. Deviation	4.714
Minimum	30
Maximum	50

The commonest symptom experienced by most of the patients was pain (100) followed by nausea (46.1) followed by fatty food intolerance (36.8), bloating (26.3), vomiting(15.8), heartburn(14.5), fullness of abdomen(13.2) and the least common symptom is constipation experienced by only 10.5%of the patients.

Table 3: Distribution of preoperative and postoperative symptoms

Preoperative Symptoms	Preoperative Frequency (%)	Postoperative Frequency (%)
Pain	76 (100%)	14(23.3%)
Nausea	35(46.1%)	10(16.7%)
Fatty food intolerance	28 (36.8%)	3(5%)
Bloating	20 (26.3%)	5 (8.3%)
Vomiting	12 (15.8%)	2 (3.3%)
Heart Burn	11 (14.5%)	3 (5%)
Fullness of abdomen	10 (13.2%)	5 (8.3%)
Constipation	8 (10.5%)	5 (8.3)

Out of sixty patients who completed the study,fifteen patients develop Postcholecystectomy syndrome and the mean age is 40.40 years.Thus incidence of PCS is 25%.

Table 4: Incidence of Postcholecystectomy syndrome

	Postcholecystectomy syndrome	N	Mean	SD	Std. Error Mean	p value
Age	Positive	15	40.40	4.793	1.238	0.30
	Negative	45	38.96	4.582	0.683	

Total thirty eight females(63.3%) and twenty two(36.6%) male patients completed the study and out of them ten females and five males developed Postcholecystectomy syndrome.

Table 5: Gender distribution of Postcholecystectomy syndrome

Gender	Postcholecystectomy Syndrome		Total	p value
	Negative	Positive		
Female	28	10	38	0.757
Male	17	5	22	
Total	45	15	60	

DISCUSSION

The study is conducted to see the incidence of Post cholecystectomy syndrome (PCS) as there is very less data available regarding PCS reported from India even though large number of cholecystectomies performed every year. The

result of this study demonstrate that cholecystectomy is an effective treatment for symptomatic cholelithiasis.75% of the patients were completely free of symptoms after chole cystectomy. 25% patients developed Post cholecystectomy syndrome.

The reported incidence of persistent symptoms after cholecystectomy varies widely.

Ros and Zambon prospectively evaluated 93 patients two years after cholecystectomy⁽¹⁰⁾. Only 53 patients were completely free of symptoms .while in our study 60 patients were followed up after 6months of surgery and 45 patients were completely free of symptoms.

Konsten et al followed up over 300 Dutch patients through postal questionnaires to their general practitioners at median interval of 10 years after cholecystectomy and reported symptoms in 18%⁽²⁾. In our study,questionnaires is given to patient during their follow up and 25% reported the symptoms. Peters et al reported that 77% of patients considered their symptoms to have been cured by the procedure⁽¹¹⁾. Our study included both laparoscopic as well as open cholecystectomy patients out of which 83% of the lap cholecystectomy patient have cured.

In a comparative study of open and laparoscopic chole cystectomy, Velpen et al reported that 95% of patients considered that they had obtained overall symptomatic improvement and 93% of the patients were pleased with the end result regardless of the access used⁽¹²⁾. Other studies by Mc Mahon et al⁽¹¹⁾,Wilson et al⁽¹²⁾ and Peterli et al⁽¹⁾ support the findings of no difference in surgical approach by Velpen et al⁽¹²⁾.

Study by Wilson and Macintyre, evaluated symptomatic outcome of 115 patients a year after laparoscopic chole cystectomy and compared the outcome with 200 patients who had undergone the open procedure. Over 90% of patients in both groups considered the procedures to have been successful in achieving symptomatic relief⁽¹⁴⁾.

McMahon et al also reported that over 90% of patients were improved by the operation⁽¹¹⁾. None of these studies assessed patients' symptoms in a prospective manner; only patient's postoperative symptoms were evaluated and patients were either expected to list preoperative symptoms, or their case notes were reviewed .

Recently published article by Peterli et al⁽¹⁾ in the World Journal of Surgery, December 2000 also analyzed symptoms of Postcholecystectomy syndrome after the surgery using standard questionnaire. They compared the prevalence of postcholecystectomy symptoms after open and laparoscopic cholecystectomy. There was no significant difference of the symptoms: 90% of patients after open and 94% after laparoscopic cholecystectomy had no or only minor symptoms. 83.3% patients after laparoscopic cholecystectomy and 66.6% patients after open cholecystectomy showed no symptoms.

Table 20: Several studies on post cholecystectomy syndrome in the English Literature

AUTHOR	N	DESIGN	CHOLECYSTE CTOMY	INCIDENCE
Peterli et al 2000(1)	397	Prospective (questionnaire)	Open (n=163) Laparoscopic (n=234)	10% 6%(excluding minor symptoms)
Wilson et al 1993(14)	315	Prospective (questionnaire)	Open (n=200) Laparoscopic (n= 115)	6.6% 6.0%

Mc Mahon et al 1995(13)	299	Prospective (questionnaire)	Mini laparotomy (n=148) Laparoscopic (n=151)	Both 10 %
Konsten et al 1993(2)	325	Prospective (questionnaire)	Open	18.5%
Velpen et al 1993(12)	160	Prospective (questionnaire)	Open (n=80) Laparoscopic (n=80)	Both 18 %
Ros et al 1987(14)	124	Prospective (questionnaire)	Open	47%
Present study	60	Prospective	Open(n=30) Lap(n=30)	16.7% 8.3%

CONCLUSION

On the basis of the results obtained from this study, we conclude that "Incidence of Post cholecystectomy syndrome is 25% in our study with a mean age of 40.4 years. 75% of the patients showed improvement of symptoms after cholecystectomy."

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