

JES-Life Sciences

# Persistent Pain after Cholecystectomy, When Defined Indications for Operation are Used

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## Article Info

### Article History

Received : 13-03-2011  
Revised : 16-03-2011  
Accepted : 17-03-2011

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## Abstract

**Introduction:** The overall prevalence of gallstones in adults is about 10% of whom approximately 1 to 2% become symptomatic. The accurate differentiation of gallstone induced biliary colic from other abdominal disease processes is the most crucial step in the successful management of gallstone disease. Persistent pain or the so-called "Post-cholecystectomy syndrome" varies in frequency between 6 and 47 percent.

**Aims and Objectives:** To study the frequency of persistent pain after cholecystectomy, when defined indications for the operation were used.

**Materials and Methods:** This is a prospective study carried out in 70 patients in whom the indications for cholecystectomy were defined. All patients were subjected to cholecystectomy. All the patients received a self-administered questionnaire before cholecystectomy about specific food intolerance, acid regurgitation, heartburn, nausea, vomiting, and sensation of bloating in relation to meals during the previous 3 months. The location of abdominal pain was noted and the intensity of pain was indicated on the visual Analogue Scale (VAS). The patients were followed up at 1, 3 and 6 months after the cholecystectomy and the same symptom questionnaire was administered to the patients at every visit.

**Results -** At one month follow up, out of 37 patients who experienced abdominal pain with typical location before surgery, 32 reported total remission of pain (86.4%) whereas out of 15 patients who had vague abdominal pain before surgery, only 3 reported relief of pain (20%). At 6 months follow up out of 22 patients with localized preoperative pain, 20 reported relief (90.0%). Out of 12 patients with vague preoperative pain, 7 patients reported relief of pain (58.3%). The average VAS score at 1 month follow up was 2.5 for patients with preoperative localized pain and 4.5 for those who presented with vague pain preoperatively. The score was 1 and 3 respectively at 6 months follow up.

**Conclusion:** The defined indications for elective cholecystectomy along with the questionnaire indicates the frequency and location of preoperative abdominal pain are useful in minimizing the frequency of persistent pain after cholecystectomy. The frequency of persistent abdominal pain after Cholecystectomy is low in patients with preoperative typical localized pain.

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**Key Words:** Glycoalkaloids, Potato, FT-IR spectroscopy.

## Introduction

The overall prevalence of gallstones in adults is about 10% of whom approximately 1 to 2% become symptomatic. The accurate differentiation of gallstone induced biliary colic from other abdominal disease processes is the most crucial step in the successful management of gallstone disease [1]. In 1911, Mayo stated "The innocent gallstone is a myth" [2].

There is no reliable method for predicting the risk of future complications in individual patients. Unchanged worsened or new symptoms after cholecystectomy are major problems. Persistent pain or the so-called "Post-cholecystectomy syndrome" varies in frequency between 6 and 47 percent [3,4].

### Aims and Objectives

To study the frequency of persistent pain after cholecystectomy, when defined indications for the operation were used.

## Materials and Methods

This is a prospective study carried out in [70 patients] in whom the indications for cholecystectomy were defined. There were 44 females and 26 males with a median age of 45.4 years. Indications for elective cholecystectomy were the occurrence of pain in the upper right abdominal quadrant or epigastrium (with or without radiation to the back and / or right subscapular region) and a history of atleast 2 pain episodes during the previous 3 months, or atleast three pain episodes during the preceding year.

All patients were subjected to cholecystectomy. All the patients received a self-administered questionnaire before cholecystectomy about specific food intolerance, acid regurgitation, heartburn, nausea, vomiting, and sensation of bloating in relation to meals during the previous 3 months. The

location of abdominal pain was noted and the intensity of pain was indicated on the Visual Analogue Scale (VAS). The patients were followed up at 1,3 and 6 months after the cholecystectomy and the same symptom questionnaire was administered to the patients at every visit.

The study was approved by the Institutional Review Board.

**Statistical analysis**

The t-test and Proportion Test were used for comparison of data.

**Results**

Table 1 shows the number of patients complaining of localized pain and vague pain at time of presentation and those with persistence of symptoms in each of the categories at 1 month, 3 months and 6 months after cholecystectomy.

Table-1

Follow up	Clinical Presentation	No.of Patients	Persistence of symptoms (No.Of Patients)	Z value And p value
1month (52)patients	Localised pain at time of presentation	37	5(13.51%)	Z=5.65 P<0.0001*
	Vague pain at time of presentation	15	12(80%)	
3 months (41)patients	Localised pain at time of presentation	28	4(14.29%)	Z=2.58 P<0.01*
	Vague pain at time of presentation	13	7(53.85%)	
6 months (34) patients	Localised pain at time of presentation	22	2(9.09%)	Z=2.10 P<0.05*
	Vague pain at time of presentation	12	5(41.67%)	

At one month follow up, out of 37 patients who experienced abdominal pain with typical location before surgery, 32 reported total remission of pain (86.4%) whereas out of 15 patients who had vague abdominal pain before surgery, only 3 reported relief of pain (20%). At 6 months follow

up out of 22 patients with localized preoperative pain, 20 reported relief (90.0%). Out of 12 patients with vague preoperative pain, 7 patients reported relief of pain (58.3%). The results were statistical significant. (Fig 1).

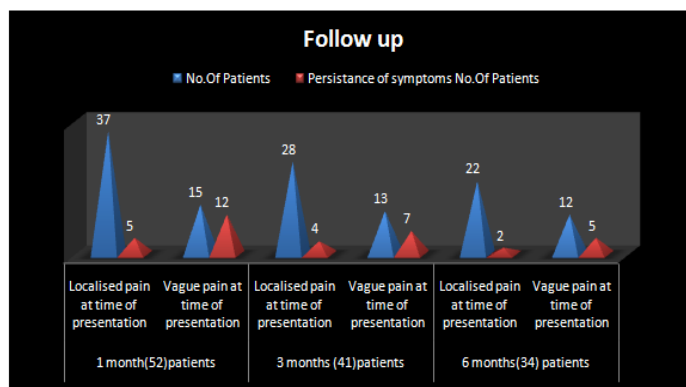


Figure1

Table 2 shows the VAS score in patients with persistent pain after cholecystectomy at 1 month, 3 months and 6 months after cholecystectomy. The average VAS score at 1 month follow up was 2.5 for patients with preoperative localized pain

and 4.5 for those who presented with vague pain preoperatively. The score was 1 and 3 respectively at 6 months follow up. The results are statistically significant (Fig 2).

Table-2

Follow up	Clinical Presentation	No.Of Patients with persistent symptoms	VAS Score (avg)	t-value and p- value
1 month (52)patients	Localised pain at time of presentation	5	2.5	t = 4.4 p < 0.05*
	Vague pain at time of presentation	12	4.5	
3 months (41)patients	Localised pain at time of presentation	4	1.5	t = 4.7 p < 0.05*
	Vague pain at time of presentation	7	3	
6 months (34) patients	Localised pain at time of presentation	2	1	t = 5.6 p < 0.001*
	Vague pain at time of presentation	5	3	

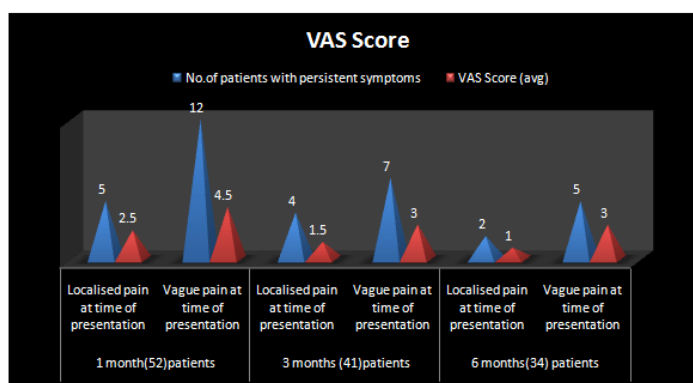


Figure 2

## Discussion

The objective of this study to note the frequency of pain after cholecystectomy when defined indications for the operation were used. Most patients with symptomatic gallstone disease benefit from cholecystectomy [5]. Studies have shown that symptomatic outcome is similar whether the gallbladder is removed by laparoscopic or open method [6]. In this study, at 6 months follow up, 91% patients who had localized pain preoperatively reported relief in contrast to 58.3% patients who had vague preoperative pain and the difference was statistically significant.

Halldestam et al mention in their study, that 8.7% of patients with typical abdominal pain location before surgery reported unchanged or increased frequency of pain episodes at 12 months after surgery. The corresponding value for patients with atypical pain was 23% [3]. Vethrus et al reports that 22% of unselected patients undergoing cholecystectomy had persistent pain 5 years after operation [7].

The prevalence of abdominal pain after cholecystectomy varies from 29% to 50% [8]. While symptom relief achieved by gallbladder excision varies from 42% to 88% [9].

The identification of patients most likely to benefit from cholecystectomy is critically important. Although difficult, it is essential to identify those who are at increased risk of developing complications secondary to gallstone disease [10].

Patients who are at increased risk of an unsatisfactory outcome after surgery (persistent pain) should also be identified [3]. Gastrointestinal symptoms like acid regurgitation, bloating, nausea often coexist in patients with gallstone disease [11]. Another fact remains that numerous patients have gastrointestinal motility disorders combined with symptomatic gallstone. There is no method to predict as to who will benefit from cholecystectomy and who will not. It has been reported in several studies that patients with dyspepsia or bloating have a high frequency of unsatisfactory outcome after cholecystectomy [8]. In this study, we found that fatty food intolerance and dyspepsia were significantly improved after cholecystectomy which is similar to that reported by Gui et al [12]. Scriven et al [13] has reported high cure rates for upper abdominal colic, and for back and shoulder pain.

In a study of patients with significant symptoms after cholecystectomy [14], 8% of postcholecystectomy patients without jaundice had retained stones detected by ERCP and 25% had an abnormal pancreatogram. ERCP can be the modality of choice for persistent and severe symptoms.

Few studies have found a relationship between unsatisfactory outcome following cholecystectomy and neuropathy, depression or other psychiatric disease based on the quantity of psychiatric medications consumed [15]. A Danish study concluded that the presence of psychic vulnerability and dyspepsia, high frequency of pain attacks and

a long history of pain indicated higher risk of poor symptomatic outcome after cholecystectomy [16].

### Conclusion

The defined indications for elective cholecystectomy along with the questionnaire indicates the frequency and location of preoperative abdominal pain are useful in minimizing the frequency of persistent pain after cholecystectomy. The frequency of persistent abdominal pain after Cholecystectomy is low in patients with preoperative typical localized pain.

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