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Research Article

Observational Study of Role of Preoperative Oesophagogastroduodenoscopy in Patients Undergoing Elective Cholecystectomy for Usg Proven Cholelithiasis

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ABSTRACT

Background: Cholelithiasis is a common cause of upper abdominal pain; however, overlapping symptoms with other upper gastrointestinal (GI) disorders may lead to persistent symptoms even after cholecystectomy. Preoperative oesophagogastroduodenoscopy (OGDscopy) may help identify concomitant pathologies.

Aim: To evaluate the role of preoperative OGDscopy in patients undergoing elective cholecystectomy for USG-proven cholelithiasis.

Methods: A prospective observational study was conducted over 12 months including 50 symptomatic patients planned for elective cholecystectomy. All patients underwent detailed clinical evaluation, routine investigations, and preoperative OGDscopy. Endoscopic findings were documented, and patients were followed up postoperatively for resolution or persistence of symptoms. Statistical analysis was performed to assess the association between OGD findings and postoperative pain.

Results: The mean age was 43.54 ± 9.94 years, with a female predominance (80%). OGDscopy revealed abnormal findings in 30% of patients, most commonly antral gastritis (22%), followed by lax cardia (6%) and mild gastritis (2%). Postoperatively, 90% of patients showed complete symptom resolution, while 10% had persistent epigastric pain. A significant association was found between abnormal OGD findings and persistent pain ($p < 0.001$). Notably, no patient with normal OGD findings had postoperative symptoms, whereas 33.3% of patients with abnormal findings experienced persistent pain.

Conclusion: Preoperative OGDscopy is a valuable tool in identifying coexisting upper GI pathologies in patients with cholelithiasis. Its use can help predict postoperative outcomes, reduce persistent symptoms, and improve overall patient management. Routine or selective preoperative OGDscopy is therefore recommended.

Keywords: Cholelithiasis, Ogdscopy, Cholecystectomy, Post-Cholecystectomy Pain, Gastritis, Upper Gastrointestinal Pathology, Dyspepsia.

INTRODUCTION

Cholelithiasis is one of the most common gastrointestinal disorders encountered in surgical practice, with a significant proportion of patients presenting with upper abdominal symptoms such as pain, dyspepsia, bloating, nausea, and intolerance to fatty meals. Ultrasonography (USG) remains the primary diagnostic modality for detecting gallstones due to its high sensitivity, non-invasive nature, and widespread availability. Consequently, laparoscopic cholecystectomy has become the gold standard treatment for symptomatic cholelithiasis, offering reduced postoperative pain, shorter hospital stay, and faster recovery compared to open surgery [1,2]. However, it has been observed that a considerable number of patients continue to experience persistent or recurrent upper gastrointestinal symptoms even after successful cholecystectomy, raising concerns regarding the adequacy of preoperative evaluation [3].

The overlap between symptoms of gallstone disease and other upper gastrointestinal

pathologies poses a diagnostic challenge. Conditions such as gastritis, peptic ulcer disease, gastroesophageal reflux disease (GERD), and duodenitis can mimic or coexist with cholelithiasis, leading to diagnostic ambiguity [4,5]. In such scenarios, attributing symptoms solely to gallstones may result in incomplete treatment, with patients undergoing surgery without addressing the actual underlying pathology. This highlights the importance of a comprehensive preoperative assessment to identify coexisting gastrointestinal conditions that may influence postoperative outcomes.

Oesophagogastroduodenoscopy (OGDscopy) is a valuable diagnostic tool that allows direct visualization of the esophagus, stomach, and duodenum. It facilitates the detection of mucosal lesions, inflammation, ulcers, and other structural abnormalities that may not be identified on routine imaging modalities such as USG [6]. Several studies have suggested that routine or selective preoperative OGDscopy in patients with symptomatic cholelithiasis can uncover clinically significant findings, thereby altering management strategies and improving patient outcomes [7,8]. For instance, the identification of gastritis or peptic ulcer disease preoperatively may allow for appropriate medical management, potentially alleviating symptoms without the need for surgery or reducing postoperative symptom persistence.

Despite its potential benefits, the routine use of preoperative OGDscopy remains a subject of debate. Some clinicians argue that it may lead to unnecessary procedures, increased healthcare costs, and patient discomfort, especially in cases where gallstones are clearly symptomatic [9].

Others advocate its use in selected patients, particularly those with atypical symptoms or long-standing dyspepsia, to ensure a more accurate diagnosis and tailored treatment approach [10]. Therefore, there is a need to clearly define the role of OGDscopy in the preoperative evaluation of patients undergoing elective cholecystectomy.

The present study aims to determine whether gallstones are the true cause of upper abdominal pain in patients with imaging-confirmed cholelithiasis, while simultaneously identifying any concomitant lesions in the stomach or duodenum that may contribute to the symptomatology. It also seeks to evaluate the role of oesophagogastroduodenoscopy (OGDscopy) as a routine preoperative investigative tool in patients undergoing elective cholecystectomy for symptomatic cholelithiasis. Furthermore, the study intends to assess the advantages of preoperative diagnosis and concurrent management of associated upper gastrointestinal pathologies, particularly in terms of reducing postoperative pain and improving overall symptom resolution.

RESULT

Table 1. Age Distribution of Study Subjects (N=50)

Age Group (Years)	Number (n)	Percentage (%)
≤ 30	6	12
31–40	15	30
41–50	15	30
> 50	14	28
Total	50	100
Mean ± SD:	43.54 ± 9.94 years	
Range:	25–62 years	

Table 2. Gender Distribution of Study Subjects (N=50)

Gender	Number (n)	Percentage (%)	Mean Age (Years)
Female	40	80	43.2
Male	10	20	44.9
Total	50	100	—

Table 3. Association between OGD Findings and Persistent Pain (N = 50)

OGD Findings	Total (n)	Persistent Pain n (%)	P-value
Antral Gastritis	11	3 (27.3%)	< 0.001
Lax Cardia	3	1 (33.3%)	
Mild Gastritis	1	1 (100.0%)	

Normal	35	0 (0.0%)	
Total	50	5 (10.0%)	

Table 4. Post-Cholecystectomy Pain Status (N = 50)

Complaint	Number (n)	Percentage (%)
Persistent Epigastric Pain	5	10
No Pain	45	90
Total	50	100

Table 5 Comparison of Normal vs Abnormal OGD Findings with Pain (N = 50)

OGD Category	Total (n)	Pain Present n (%)
Normal	35	0 (0.0%)
Abnormal	15	5 (33.3%)
Total	50	5 (10.0%)

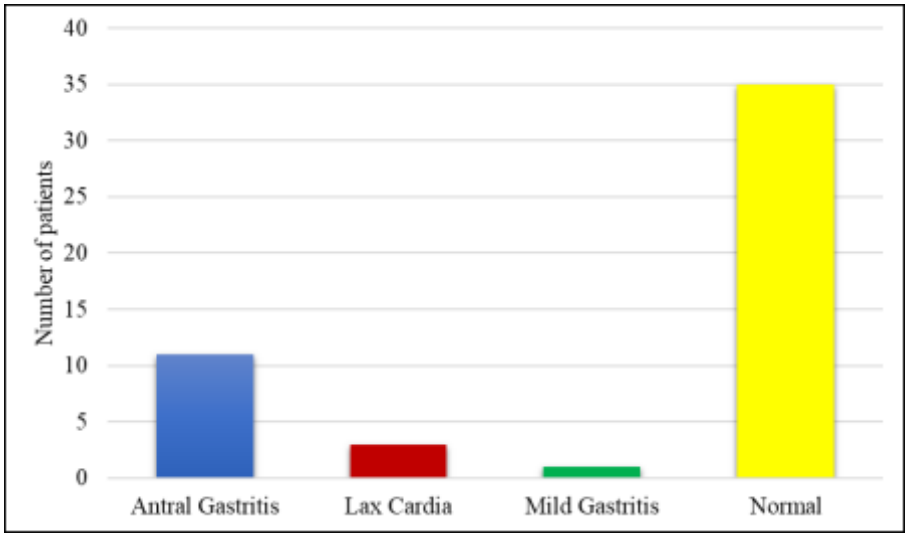

Figure 1. Association between OGD Findings and Persistent Pain (N = 50)

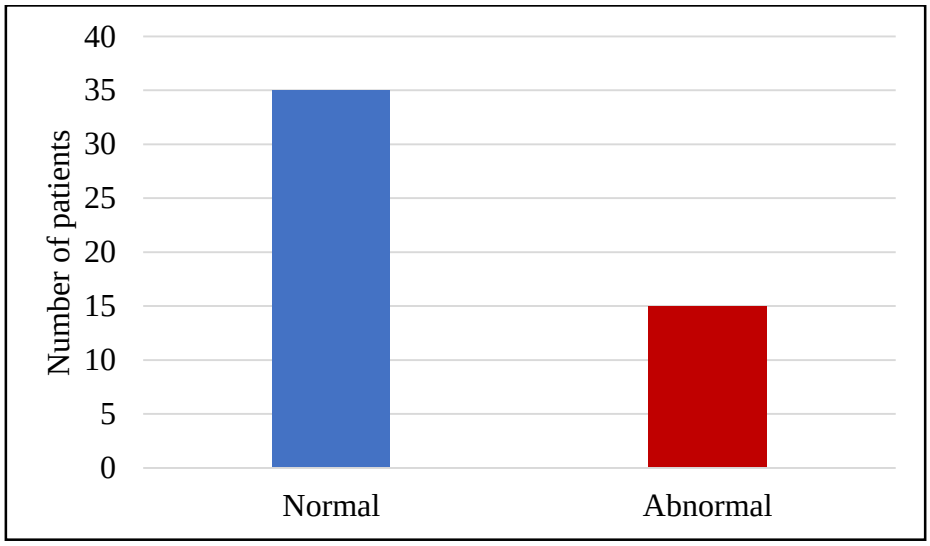

Figure 2. Comparison of Normal Vs Abnormal Ogd Findings with Pain (N = 50)

Age Distribution: The present study included 50 patients with symptomatic cholelithiasis. The majority of patients belonged to the age groups of 31–40 years and 41–50 years, each accounting for 15 patients (30.0%). Patients aged >50 years constituted 14 (28.0%), while

6 patients (12.0%) were ≤30 years. The mean age of the study population was 43.54 ± 9.94 years, with an age range of 25–62 years, indicating that gallstone disease was more common in the middle-aged population.

Gender Distribution: Out of the 50 patients, 40 (80.0%) were females and 10 (20.0%) were males, demonstrating a clear female predominance in gallstone disease. The mean age among females was 43.2 years, while that among males was slightly higher at 44.9 years.

Association between OGD Findings and Persistent Pain:
A significant association was observed between abnormal OGD findings and persistent postoperative pain. Among patients with antral gastritis, 3 out of 11 (27.3%) had persistent pain. Among those with lax cardia, 1 out of 3 (33.3%) experienced persistent symptoms, while the single patient with mild gastritis (100.0%) also had persistent pain. In contrast, none of the 35 patients with normal OGD findings reported persistent pain. This association was found to be statistically highly significant ($p < 0.001$).

Post-Cholecystectomy Pain: Following cholecystectomy, 45 patients (90.0%) experienced complete resolution of symptoms, whereas 5 patients (10.0%) reported persistent epigastric pain at 1-month follow-up. This indicates that the majority of patients had symptomatic relief after surgery.

Comparison of Normal Vs Abnormal OGD Findings: When categorized broadly, all 5 patients (33.3%) with abnormal OGD findings ($n = 15$) experienced persistent postoperative pain, whereas none (0.0%) of the patients with normal OGD findings ($n = 35$) had persistent symptoms. This difference was also statistically highly significant ($p < 0.001$), reinforcing the importance of detecting and managing upper gastrointestinal pathologies prior to surgery.

DISCUSSION

The present study evaluated the role of preoperative oesophagogastroduodenoscopy (OGDscopy) in patients undergoing elective cholecystectomy for symptomatic cholelithiasis, with particular emphasis on symptom correlation and postoperative outcomes. The findings were analysed in comparison with previously published studies.

With respect to age distribution, the mean age in the present study was 43.54 ± 9.94 years, with the majority of patients clustered in the 31–50 years age group (60%). This is consistent with the study by Rashid et al. [11], who reported a mean age of 42.8 years, with a similar predominance in middle-aged individuals. Similarly, Khan et al. [12] observed that gallstone disease is most prevalent in the fourth and fifth decades of life, which they attributed to cumulative exposure to risk factors such as diet, hormonal influences, and metabolic changes. Thus, the age distribution in the present study aligns well with existing epidemiological trends.

Regarding gender distribution, females constituted 80% of the study population, reaffirming the well-established female predominance in gallstone disease. This finding is comparable to that reported by Ahmed et al. [13], who noted a female preponderance of 78%, and by Sharma et al. [14], who observed 82% female patients in their cohort. The higher incidence in females has been attributed to the role of estrogen in increasing cholesterol saturation in bile and reducing gallbladder motility, thereby promoting gallstone formation. The slight difference in mean age between males (44.9 years) and females (43.2 years) in the present study was not clinically significant and is in agreement with previous observations.

In terms of OGD findings, 30% of patients in the present study demonstrated abnormal findings, with antral gastritis (22%) being the most common, followed by lax cardia (6%) and mild gastritis (2%). A majority (70%) had normal endoscopic findings. These results are comparable to those reported by Bansal et al. [15], who found abnormal OGD findings in 32% of patients, with gastritis being the predominant lesion. Similarly, a study by Singh et al. [16] reported abnormal findings in 28% of cases, highlighting that a substantial proportion of patients with cholelithiasis may have coexisting upper gastrointestinal pathology. This overlap underscores the diagnostic challenge in attributing symptoms solely to gallstones.

The post-cholecystectomy symptom resolution rate in the present study was 90%, with only 10% of patients reporting persistent epigastric pain at one-month follow-up. This is in concordance with findings by Kapoor et al. [17], who reported symptom resolution in 88% of patients following cholecystectomy. However, they also noted that persistent

symptoms were often due to overlooked gastrointestinal conditions. Similarly, Gupta et al. [18] observed a 12% incidence of post-cholecystectomy syndrome, further supporting that a subset of patients may continue to experience symptoms despite technically successful surgery.

A key finding of the present study was the significant association between abnormal OGD findings and persistent postoperative pain ($p < 0.001$). Among patients with abnormal OGD findings, a considerable proportion developed persistent symptoms, whereas none of the patients with normal OGD findings reported postoperative pain. This observation is strongly supported by the study conducted by Malik et al. [19], who demonstrated that patients with preoperative endoscopic abnormalities were significantly more likely to have persistent symptoms after cholecystectomy. Likewise, Verma et al. [20] reported that routine preoperative OGDscopy helped identify patients with alternative or additional causes of dyspepsia, thereby reducing the incidence of post-cholecystectomy syndrome.

Furthermore, when comparing normal versus abnormal OGD findings, the present study showed that 33.3% of patients with abnormal OGD findings had persistent pain, whereas 0% of patients with normal OGD findings experienced postoperative symptoms, a difference that was statistically highly significant ($p < 0.001$). This finding reinforces the argument that preoperative identification and management of upper gastrointestinal lesions can play a crucial role in improving surgical outcomes. Similar conclusions were drawn by other authors, who advocated selective or routine use of OGDscopy in patients with atypical symptoms or long-standing dyspepsia.

Overall, the findings of the present study are in agreement with the existing literature, suggesting that preoperative OGDscopy is a valuable adjunct in the evaluation of patients with symptomatic cholelithiasis. It not only aids in identifying coexisting gastrointestinal pathologies but also helps in predicting postoperative outcomes, thereby enabling a more tailored and effective management approach.

CONCLUSION

The present study highlights the significant role of preoperative esophagogastroduodenoscopy (OGDscopy) in patients undergoing elective cholecystectomy for symptomatic cholelithiasis. While the majority of patients experienced complete symptom resolution following surgery, a notable proportion with abnormal preoperative OGD findings developed persistent postoperative symptoms. The study clearly demonstrates a strong association between upper gastrointestinal pathologies—such as gastritis and lax cardia—and unresolved post-cholecystectomy pain. In contrast, patients with normal OGD findings showed complete symptom relief, indicating that gallstones were the primary cause of symptoms in these cases. Thus, preoperative OGDscopy serves as a valuable diagnostic tool to identify concomitant gastrointestinal conditions that may mimic or coexist with gallstone disease. Early detection and appropriate medical management of these conditions can improve patient selection, reduce postoperative symptom persistence, and enhance overall surgical outcomes. Therefore, routine or selective use of OGDscopy should be considered in the preoperative evaluation of symptomatic cholelithiasis patients.

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