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Dr. Sricharan Kotapati
Associate Professor, Department of General Surgery, Konaseema Institute of Medical Sciences and Research, Amalapuram, Andhra Pradesh, India

Dr. Katragadda Satyendra Kumar
Associate Professor, Department of General Surgery, Sambhram Institute of Medical Sciences and Research, Bangalore, Karnataka, India

Correspondence
Dr. Katragadda Satyendra Kumar
Associate Professor, Department of General Surgery, Sambhram Institute of Medical Sciences and Research, Bangalore, Karnataka, India

A prospective investigation of preoperative upper gastrointestinal tract endoscopy in patients undergoing planned chemotherapy in tertiary care hospitals

Dr. Sricharan Kotapati and Dr. Katragadda Satyendra Kumar

Abstract
Aim and Objective: One common gastrointestinal ailment that surgeons see on a daily basis in practice is cholelithiasis. To investigate upper GI tract endoscopy prior to cholecystectomy surgery. Upper GI endoscopy should be performed on individuals undergoing laparoscopic cholecystectomy. To use the VAS score to evaluate patients' preoperative and postoperative discomfort. To compare the aforementioned results with the VAS score used to measure preoperative pain.
Method: A prospective study designed used with 66 patients, the study includes the Patients with cholelithiasis admitted for elective laparoscopic cholecystectomy in wards of Department of General Surgery, Sambhram Institute of Medical Sciences and Research, Bangalore, Karnataka, India, during the October 2016 to September 2017.
Results: Patients with typical biliary colic also had a reduced percentage of positive UGIE findings, suggesting that upper GI disorders should be cleared out before surgery because cholelithiasis is typically an unintentional finding.
Conclusion: The clinical manifestations of cholelithiasis and other upper gastrointestinal disorders are comparable. Many cholelithiasis patients still experience upper gastrointestinal symptoms even after surgery, which may call for additional investigation. Although UGIE is not recommended for every cholelithiasis patient, it can help prevent atypical post-operative symptoms in some cholelithiasis patients who present atypically.

Keywords: Clinical manifestations, GI diseases, biliary colic, UGIE, VAS score

Introduction
Typically, cholelithiasis is found by ultrasonography when treating upper gastrointestinal symptoms or as part of routine examinations for other medical conditions [1, 2]. Surgery is the recommended course of treatment, unless the patient is deemed too risky to have surgery, in which case conservative medical management is prescribed. The typical presentation of symptomatic cholelithiasis is epigastric pain, which usually occurs 1-2 hours after a fatty meal and lasts for a few hours. Vomiting and nausea may be related to it [3, 4].
A significant challenge for the treating surgeon is symptomatic cholelithiasis presenting with symptoms similar to other GI tract diseases because patients may continue to experience similar pain and complaints even after a cholecystectomy (postoperative cholecystectomy syndrome). However, some gallstone patients present with a complex combination of clinical symptoms that resemble like symptomatic cholelithiasis, which may be secondary to other associated gastrointestinal problems like peptic ulcer diseases, esophagitis, GERD, etc. Therefore, the most crucial step before undergoing an elective cholecystectomy is to properly evaluate the gallstone disease that is linked to the other GI disease issues [5, 6].
Individuals with cholelithiasis, a gallstone disease identified by USG, may exhibit both conventional and unusual pain. Post-cholecystectomy syndrome may arise in patients with unusual gastrointestinal symptoms. Finding out about any additional GI problems that may be present in patients with cholelithiasis who have been diagnosed by USG and are scheduled for surgery should be taken into consideration as part of routine care [7]. One of the key diagnostic instruments for identifying any upper gastrointestinal disorders that could be linked to a cholelithiasis patient's condition and that could influence the patient's postoperative condition is the UGIE [8].

Methodology

The study was A prospective study, includes the patients admitted in the surgical wards of Department of General Surgery, Sambhram Institute of Medical Sciences and Research, Bangalore, Karnataka, India, during the October 2016 to September 2017.

Inclusion criteria

- USG proven cholelithiasis patients who are willing to participate in the study.
- Cholelithiasis patients with upper GI symptoms.

Exclusion criteria

- Patients with GB tumor,
- Gallstone pancreatitis,
- Acute cholecystitis with cholelithiasis,
- Patients deemed unfit or unwilling for surgery,
- Patients with a history of upper gastrointestinal procedures,
- Patients unwilling to engage in any way

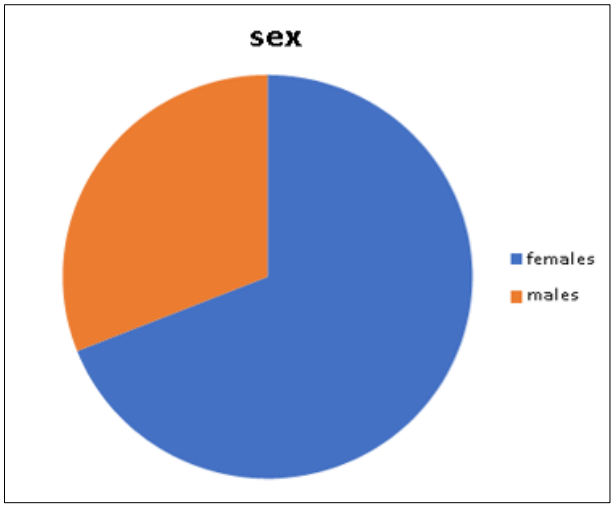
Materials and Methods

Patients will be asked to provide demographic information and a thorough medical history in order to identify the cause and related symptoms. Upper gastrointestinal endoscopy, general examination, and ultrasonography examination. VAS scores are used to evaluate patients both before and after surgery.

Results

All patients admitted with cholelithiasis underwent upper GI endoscopy prior to cholecystectomy, and the outcomes were documented. Two categories of patients were created based on the UGIE: Patients with cholelithiasis symptoms and normal UGIE results were included in group A.

Patients with UGIE who exhibit pathological findings and cholelithiasis symptoms were included in group B.



Graph 1: Pie diagram of sex distribution

In this study, 66 individuals with a mean age of 42.4+/- 4.8 years were involved. Patients were divided mostly into women (n = 46, 69%) and males (n = 20, 31%).

The remainder of the study participants (n = 34) experienced normal biliary colic symptoms, whereas 54% of them had unusual symptoms.

In contrast to 35% of patients who had good endoscopic results, 65% of patients who underwent UGIE for biliary colic symptoms had normal endoscopy findings.

Compared to biliary colic in patients with positive results (34.7%, n=8) (64.4%, n=29), atypical biliary colic was found in a notably larger proportion of patients with positive UGIE findings. Compared to patients with atypical biliary colic (35.5%), those with typical biliary colic had a larger frequency of UGIE normal results (64.4%).

Table 1: UGIE findings comparison

Biliary colic symptoms	UGIE findings (normal)	UGIE findings (positive)	Total
Typical biliary colic	15(65%)	8(34.7%)	23
Atypical biliary colic	16(35.5%)	29(64.4%)	45
Total	31(46.9%)	37(56%)	66

Table 2: Male and female distribution

	Typical biliary colic	Atypical biliary colic	total
male	9 (45%)	9(45%)	18
female	23(50%)	25(54%)	48
total	32(48%)	34(51%)	66

- The UGIE results were used to split the patients into two groups. 32 patients (48%) in Group A have normal UGIE findings.
- Patients in Group B have 34 (51%) positive UGIE results.
- In the first, fourth, and sixth weeks following surgery, VAS were recorded both pre- and postoperatively.

Table 3: Comparison of patients in groups A and B's preoperative and postoperative VA scores

VAS score	Preoperative pain score		1stweekofpost op		4thweekofpostop		6thweekofpostop	
	A (32)	B (34)	A (32)	B (34)	A (32)	B (34)	A (32)	B (34)
0	1(3%)	1(2%)	16(50%	8(23%)	28(87%	16(47%	31(96%	24(70%
1	20(62.5%)	11(32%	15(46%	18(52%	5(15%)	14(41%	1(3%)	8(23%
2	12(37%)	17(50%	1(3%)	11(32%	0	4(11%)	0	1(2%)
3	1(3%)	6(17%)	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0

A considerably less percentage of patients in both groups A and B report having preoperative pain with a VAS score of 0. 32% (n=11) of group B patients and 62.5% (n=20) of group A patients both had VAS 1. 37% [12] of group A patients and 50% (17) of group B patients had VAS 2 present. VAS 3 was present in 3% [1] of group A patients and 17% [6] of group B patients, suggesting that group B patients had more preoperative discomfort.

Two thirds of group B patients and half of group A patients received VAS 0 scores in the first week after surgery. VAS 1 was evident in patients in groups A and B (46% and 52%, respectively). VAS 2 is found in 3% of group A and 32% of group B, suggesting that postoperative pain is worse in group B than in group A.

In group B, proton pump inhibitors were given as a symptomatic treatment for postoperative discomfort. 87% of group A patients and 47% of group B patients had a VAS of 0 during the fourth postoperative week. VAS 1 was seen in 15% of group A patients and 41% of group B patients. Among patients in group B, 11% had a VAS 2.

In the sixth week following surgery, 96% of patients in group A and 70% of patients in group B had a VAS score of 0. 3% of group A and 23% of group B had VAS 1 observations. VAS 2, which was observed in 2% of group B patients, suggests that postoperative pain is higher in group B patients (those with positive UGIE findings) and tends to decrease with the use of medical therapy.

The patients in group A often experienced a lower percentage of postoperative discomfort without the need for additional medical care, suggesting that patients with normal UGIE findings following cholecystectomy do not exhibit post-operative symptoms. The patients in group B received medical treatment during the postoperative phase, and after about two weeks of care, the patients' symptoms decreased, suggesting the presence of post-cholecystectomy symptoms in patients with positive UGIE results.

Table 4: Comparative analysis of pain score in group A and group B patient's in pre-op and postoperative period

Variables	Pre-op		1st week		4th week		6th week	
	A	B	A	B	A	B	A	B
Mean	1.298	1.765.	0.51	1.085	0.15	0.685	0.03	0.457
Median	1	2	0	1	0	1	0	0
SD	0.646	0.728	0.686	0.742	0.364	0.709	0.174	0.700
IQR	1	1	1	1	1	1	1	1
p-value	0.0012		0.0006		0.0001		0.0004	

Group A's average mean preoperative pain score is 1.298, while group B's average mean is 1.765. In group A, the median preoperative pain score is 1, while in group B, it is 2. Group A's preoperative pain score standard deviation is 0.646, while group B's is 0.728. Groups A and B's preoperative pain scores have a significant p value of 0.0012.

Group B has a mean score of 1.085 and Group A has an average score of 0.51 for the first week following surgery. Group A's typical median first-week postoperative pain score is zero, while Group B's is one. Group A's first week postoperative pain standard deviation is 0.686, while group B's is 0.742. Groups A and B's first week postoperative pain scores have a significant p value of 0.0006.

In group A, the average mean of the fourth week postoperative pain score is 0.15, while in group B, it is 0.685. In group A, the average median pain score at the 4-week postoperative mark is 0, while in group B, it is 1. Group A's 4th week postoperative pain score standard deviation is 0.364, while group B's is 0.709. Groups A and B's fourth-week postoperative pain score had a significant p value of 0.0001.

Group A's mean pain score six weeks after surgery is 0.03, while group B's mean score is 0.457. In groups A and B, the usual median pain score six weeks after surgery is 0. Group A's and Group B's sixth-week postoperative pain scores have standard deviations of 0.174 and 0.700, respectively. The sixth week postoperative pain score for both group A and group B has a significant p value of 0.0004.

Discussion

Most often, cholelithiasis is discovered by chance in individuals who are experiencing biliary colic. Extensive research should be conducted in order to avoid difficulties following surgery. To avoid post-cholecystectomy symptoms, it is preferable for UGIE to be involved as a standard preoperative test in patients undergoing cholecystectomy [9-11].

A total of 66 patients, whose mean age is 42.4 +/- 4.8 years, are included in the study. Of them, women made up 46 (69%) and men made up 20 (31%).

34 individuals, or 54% of the total, showed symptoms that were uncommon for biliary colic. The majority of the patients (69%) were female. In contrast to 35% of patients who had good endoscopic results, 65% of patients who underwent UGIE for biliary colic symptoms had normal endoscopy findings. Significantly more patients (63%, n=28) exhibited atypical biliary abnormalities than patients with typical biliary colic who also had positive UGE results (31%, n=7). In patients with UGIE identified lesions, gastritis (18%), duodenal ulcers (10%), and reflux esophagitis (5%), were the most common upper gastrointestinal problems.

Of the 36 patients with upper gastrointestinal lesions who tested positive, seven (19%) reported classic biliary colic symptoms, while the remaining 28 (77%) had unusual symptoms. In contrast, conventional biliary colic was present in 14 (46%) and atypical biliary colic was seen in 16 (53%) of the 30 individuals with normal UGIE. Of the 66 individuals,

68% (22) females and 31% (10) males had conventional biliary symptoms, while 52% (24) females and 30% (10) men had unusual symptoms.

Because pain was the main symptom in both groups, the pre-op patients in groups A and B separately had their pain scores statistically assessed. The pre-op pain score was rather high (p value 0.05) in group B. Three percent of group A and seventeen percent of group B had pain scores of three. It suggests that patients with positive UGIE findings experienced more pain than individuals with normal UGIE findings [12-15].

Two thirds of group B patients and half of group A patients received VAS 0 scores in the first week after surgery. VAS 1 was evident in patients in groups A and B (46% and 52%, respectively). VAS 2 is found in 3% of group A and 32% of group B, suggesting that postoperative pain is worse in group B than in group A.

87% of group A patients and 47% of group B patients reported having no discomfort during the fourth postoperative week. Group A reported a pain level of 52%, whereas Group B reported a pain score of 15%. 11% of group B had a pain score of 2, compared to 0% of group A.

In the sixth postoperative week, 2% of group B, 23% of group B, and 3% of group A reported having pain scores of 2. While 96% of group A and 70% of group B reported having no pain.

The preoperative period, first, fourth, and sixth postoperative weeks show a significant difference in pain scores between groups A and B, suggesting that patients with positive UGIE findings experience symptoms following a cholecystectomy.

Between groups A and B, there was very little variation in pain scores throughout the fourth and sixth weeks. According to the data, group B's pain decreased considerably (p=0.0001 & p=0.0004) in response to medicinal therapy throughout the fourth and sixth weeks. Group B patients were treated for four to six weeks in accordance with their UGIE findings in order to achieve the maximum level of pain reduction, which was comparable to that of group A-UGIE normal patients.

After six weeks, 90% of all surgical patients in this trial reported being completely pain-free. Three months later, 95% of respondents responded overall.

It proved how successfully group B's concomitant medical treatment managed their cholecystectomy side effects [16].

The primary obstacles to routine UGIE for all patients are the waiting list, patient discomfort, and problems connected to endoscopy. This investigation has the advantage of allowing us to rule out upper gastrointestinal illnesses and cancer in all individuals by doing normal UGIE. It can also prevent group B patients from requiring a costly emergency UGIE that necessitates hospitalization.

Furthermore, our study did not include individuals with gallstone pancreatitis, empyema gallbladders, or cholecystitis. Consequently, upper gastrointestinal endoscopies were not performed prior to surgery for patients with gallstones and verified gallbladder pathology.

Not all patients with symptoms of cholelithiasis can benefit from a UGI scopy; in our study, 25% of patients had normal endoscopic results. For patients with an unusual presentation, we may recommend UGIE to rule out alternative sources of discomfort and prevent prolonged pain even after surgery. It's also critical to properly evaluate each cholelithiasis patient's preoperative period to prevent performing preventive cholecystectomy on asymptomatic patients.

Conclusion

The clinical manifestations of cholelithiasis and other upper gastrointestinal disorders are comparable. Determining if upper GI symptoms are caused by another upper GI illness or by cholelithiasis can be difficult. Many cholelithiasis patients still experience upper gastrointestinal symptoms even after surgery, which may call for additional investigation. While it is not recommended for all cholelithiasis patients to prevent atypical symptoms following surgery, in some cases it is beneficial to conduct UGIE in patients with atypical presentations.

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Conflict of interest
None

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