International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2020): 7.803

Prospective Study of Upper GI Scopic Evaluation of Cases of Gallstones with Dyspepsia Prior to Laparoscopic Cholecystectomy

Bhaskar V Musande[1], Parupally Chaitanya Kiran[2], Soorya C. Sekar[3]

Professor, Department of General Surgery, MGM Medical College, Aurangabad, Maharashtra, India

[2]Senior Resident, Department of General Surgery, MGM Medical College, Aurangabad Maharashtra, India

[3]Senior Resident, Department of General Surgery, MGM Medical College, Aurangabad Maharashtra, India
Corresponding Author E-mail: *chaitanya.parupalli[at]gmail.com*

Abstract: ***Introduction: Gallstone disease is most common surgical problem encountered. There are multiple causative factors for it. Gallstone disease typically presents like biliary colic or may presents atypically with symptoms of dyspepsia which is similar for many upper gasatro-intestinal pathologies. Most patients remain asymptomatic from their gallstones throughout life. Hence performing upper GI scopy prior to laparoscopic cholecystectomy will decrease persistence of symptoms post operatively which will reduce the incidence of post-cholecystectomy syndrome. Methods: ultrasonography proven gallstone disease patients who are presenting with dyspepsia to general surgery opd. Patients are screened by upper gi scopy before laparoscopic cholecystectomy. Results: ¾ th patients had abnormal upper gi scopic findings and 56% had gastritis which is most common finding. For 11 patients management plan has changed. Conclusion: routine use of upper GI scopy as pre-operative diagnostic tool in patients presenting with atypical gallstone disease.***

Keywords: Upper GI Scopy, Gall stones, Dyspepsia

1. Introduction

Cholelithiasis is one of the most common surgical problems encountered (1). In Asia, the gallstone disease prevalence is 5-10% of population, especially among older individuals and commonly females (1).

There are multiple causative agents for gall stone including lithogenecity, decrease in motility of gall bladder, augmented gall bladder volume, obesity, number of pregnancies, post operative periods, family history, estrogen replacement therapy, serum lipids and decreased physical activity (2).

The pain due to the obstructing stone that causes sudden expansion of the gall bladder is called “Biliary Colic” (3). This typical pattern of pain occurs at right upper quadrant or epigastric region and persists upto 15mins to several hours usually after a fatty meal. When pain gradually disappears it leaves behind a dull ache usually with nausea and vomiting. Due to splanchnic nerve supply, pain radiates to back, right scapula sometimes shoulder tip. Any other symptoms that does not fit typical pain criteria is considered atypical and include any abdominal discomfort, dyspepsia, nausea, belching, heart burn, food intolerance, flatulence, vomiting, loss of appetite (4, 5).

Some patients do not get symptomatic relief or get only partial relief after laparoscopic cholecystectomy as symptoms are not entirely due to cholelithiasis. Symptomatology of upper GI diseases can be overlapping so upper gastrointestinal endoscopy is important to identify the diseases of upper gastrointestinal tract as it evaluates the esophagus, stomach and duodenum along with direct visualization of the ampulla of Vater. It is considered a minimally invasive procedure and does not require any significant recovery after the procedure as it is performed under local anesthesia at our institution.

The benefit of cholecystectomy for gallstone patients with dyspepsia has remained debatable. Only about one half of patients were symptom free after cholecystectomy.

Approach of performing upper gi scopy as a routine investigation prior to cholecystectomy, will decrease persistence of symptoms and will help in detecting gastroduodenal pathologies at an early stage.

Many patients of upper gastrointestinal problems with gallstones have esophagitis, gastritis, peptic ulcer disease and hiatus hernia may attribute to the post cholecystectomy syndrome (6, 7).The challenge in the evaluation of patients with upper gastrointestinal symptoms, who also have gallstones, is to decide whether gallbladder stones are the source of the symptoms or an incidental finding and differentiating.

2. Aims and Objectives

Aim

To evaluate the role of upper gastrointestinal endoscopy prior to laparoscopic cholecystectomy in patients of gallstones with dyspepsia.

Objectives

- To evaluate causes of dyspepsia in patients of cholelithiasis
- To assess the endoscopic findings before laparoscopic cholecystectomy
- To study the outcome of laparoscopic cholecystectomy.

3. Methods

Prospective observational study conducted from 15th OCT 2017 to 17th OCT 2019 in the Department of Surgery, MGM Medical College, Aurangabad. Patients who are presenting with atypical symptoms like dyspepsia (abdominal discomfort, Nausea, belching, heart burn, food intolerance, flatulence, vomiting, loss of appetite) (5), with USG proven cholelithiasis. All patients should undergo upper GI scopy prior to surgery.

4. Results

Table 1: Distribution of patients according to Age group

Age Groups (Years)	Number of Patients N=48 Range : 18-74	Percentage (%)	Mean Age Mean±SD
15-24	06	12.50	41.98± 14.78
25-34	11	22.92	
35-44	08	16.67	
45-54	11	22.92	
55-64	08	16.67	
≥65	04	8.33	
Total	48	100	

Most common age group involved is between 25-54 corresponds to 30 patients which is 62.5%. Mean age of presentation is 41years.

Table 2: Distribution of patients according to Complaints

Complaints	Number of Patients N=48	Percentage (%)
Abdominal Discomfort	14	29.17
Abdominal Pain	44	91.67
Heart Burn	31	64.58
Abdominal Fullness	27	56.25
Flatulence	10	20.83
Belching	07	14.58
Nausea	17	35.42

Most common symptom with which patients present is abdominal pain among 91.67% of the study population followed by retrosternal heart burn (64.5%) constitutes second most common.

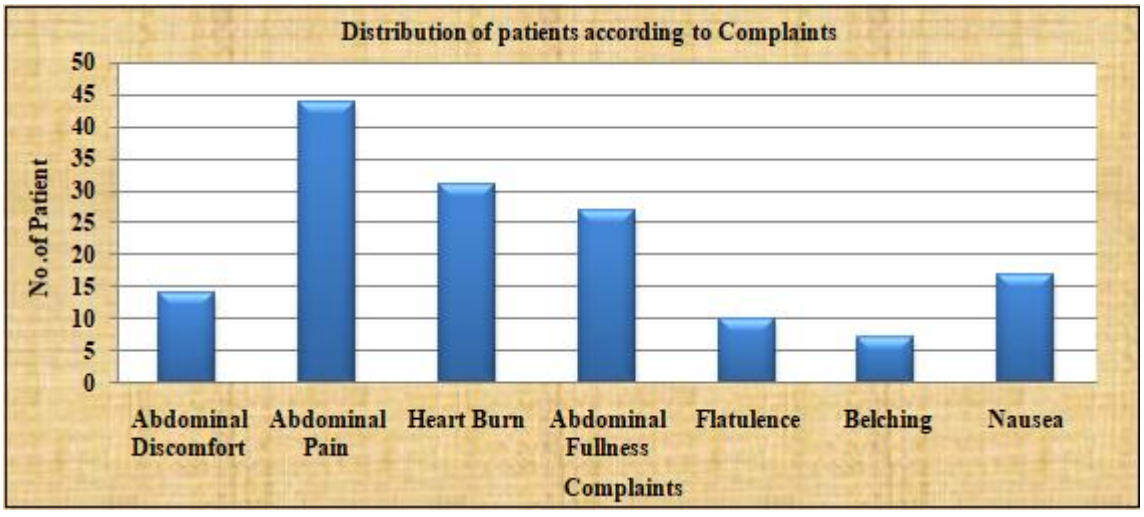

Table 3: Distribution of Patients based on endoscopic findings in group

Endoscopic Findings	Number of Patients N=48	Percentage (%)
Normal	12	25.00
Gastritis / Pan gastritis	27	56.25
Duodenitis	01	2.08
Gastritis with Duodenitis	03	6.25
Hiatus Hernia	06	12.50
Reflux Esophagitis	09	18.75
Peptic Ulcer	01	2.08

Commonest upper gi finding which noted was gastritis constitutes 56%, then followed by reflux esophagitis 18.75%, then hiatus hernia.

Table 4: Distribution of Patients based on H.Pylori findings

H.Pylori findings	Number of Patients N=30	Percentage (%)
Positive	08	26.67
Negative	22	73.33

8 patients are turned positive for RUT among 30 gastritis patients which comes approximately 26.67%.

Table 5: Comparison of Post-op events and Upper GI Endoscopy findings among Study patients

Post -Op Time	Post -Op Events	Upper GI Endoscopy findings				χ^2-value	p-Value
		Positive		Positive			
		N	N	N	N		
First week	Pain Abdomen	29	82.86	05	41.67	7.577	0.006 Significant
	Uneventful	06	17.14	07	58.33		
Second Week	Pain Abdomen	15	42.86	02	16.67	2.655	0.103 NS
	Uneventful	20	57.14	10	83.33		
Forth week	Pain Abdomen	07	20.00	00	0.00	2.820	0.093 NS
	Uneventful	28	80.00	12	100.00		
Three Months	Pain Abdomen	11	31.43	00	0.00	4.924	0. 026 Significant
	Uneventful	24	68.57	12	100.00		

NS- Not Significant

Above table represents the patients who is having normal upper gi scopy findings had complete resolution of symptoms within 2weeks which is statistically significant, Compared those who had abnormal upper GI findings there is relapse of symptoms later on, after 3months there were 11 cases with relapse of symptoms which is statistically significant**.**

5. Discussion

This was carried out at our institution in between oct 2017-19. In the present study 48 cases were included.

In the current study patients presenting with atypical symptoms who are ultrasonagraphically detected gallstones are subjected to upper gi scopy before laparoscopic cholecystectomy. Patients presenting with acute biliary colic are avoided.

In this study most number of the patients are from age group 30-40years. Sex ratio female to male is 2:1, in our study most of the patients came with complaints of pain abdomen approximately 44 (92%) then heartburn then abdominal fullness having 64% and 56% respectively. Similar presentation seen in study done by ure et al with 82.9% patients presented with abdominalpain as most common symptom. Among the study population usg Abdomen shows 85% patients had multiple gall stones; 15% patients had solitary gall stone.

Upper GI scopy done routinely in all the patients in which 75% patients having upper GI pathologies and 25% patients having normal GI findings.which shows gastritis (56%) as the most common pathological finding noted, then reflux esophagitis (19%), hiatus hernia (13%) respectively. Upper GI findings are more common in age group 25-50 yrs, mean age corresponds to 41years. “Gaharwar et al” (8) study represents the commonest age group of presentation of both cholelithiasis and dyspepsia is 30-60 years accounts for almost 81.8%.

“Thybusch et al” (9) study mandates the routine investigation of upper GI scopy prior cholecystectomy as it shows 52.7% patients showing abnormal pathological findings among gastritis (25.7%) most common, in his study ogdscopy influenced the management and postponement of surgery in 8.3%.

“Bartoz et al” (10) study shows 61.3% abnormal upper GI findings, gastritis (43.6%) being the commonest among them.

“Faisal et al” (11)conducted study implicates upper GI scopy prior to cholecystectomy whose study of 92 patients of chronic cholecystitis with mean age of 37.5years ogdscopy shows 77% upper GI pathologies.

Among the patients with upperGI findings 8 patients were H.Pylori positive (21%). H.pylori was more common in females around 7 patients which were significant, distributed mostly between 25-54 years age group. “Faisal et al” (11) study shows 32 % patients positive for H.Pylori.

In our study Change in the management plan was noted in 11 patients (22.9%) among those of abnormal upper GI findings of which 8 are H.Pylori Positive has prescribed medical management and 1 duodenal ulcer, 2 hiatus hernia whose laparoscopic cholecystectomy has been postponed or changed.

“Rassek et al” (12) study denotes 44% patients had abnormal OGD findings and change in treatment plan or postponement of cholecystectomy advised in 11.3%. Among the patients who are normal in upper GI scopy most has complete symptomatic relief (60%) post operatively by end of 1 week, which is statistically significant compared patients with positive upper gi findings. By the end of 2 weeks all patients were aymptomatic.

But the patients who have positive upper gi findings were given medical management but post opearatively patients has relapse of symptoms seen at the end 1 and 3months which is statistically significant.

There was no relation noted between the number of gallstones either with upper gi findings or age.

In “Fahlke et al” (13) study, pre operative gastroscopy in 646 patinets shows pathological findings in 8.2% only. Similarly study done by “Beyermen k et al” preoperative OGDscopy in 610 patients shows pathological findings in 11% only. So they have concluded OGD scopy is to be done

when history of non specific abdominal pain, pain existing after the cholecystectomy.

According to the above studies and literature shows mixed views. But most of the studies are in favour of pre-operative upper GI scopy as an investigation tool for gallstone disease presenting with both typical and atypical symptoms.

6. Conclusion

Upper GI scopy helps in evaluation of Dyspepsia and there by deciding whether gallstones are the source of symptoms or an incidental finding.

Besides its cost-effectiveness, upper GI scopy helps in reducing the incidence of post-cholecystectomy syndrome.

Upper GI scopy detects the lesions like ca-esophagus and stomach at an early stage which can change the treatment modality as well as the prognosis of the patient.

Our study demonstrates, significant upper GI findings noted in females compared to males, with a ratio of 2:1, having mean age of 41.98 years.

Among the study population 75% of individual had abnormal upper GI findings and are treated by medical management along with laparoscopic cholecystectomy.

Hence we conclude routine use of upper GI scopy as pre-operative diagnostic tool in patients presenting with atypical gallstone disease.

7. Acknowledgements

This research was conducted in MGM Medical College, Aurangabad under the guidance of HOD Dept of Surgery Dr. Pravin R Suryawanshi for guiding and permitting to carry out research.

Funding: No funding source

Conflict of interest: None

References

[1] Huang J, Chang CH, Wang JI, Kuo HK, Zin JW, Shan WY. Nationwide epidemiological study of several gallstone disease in Taiwan. *BMC Gastroenterol*. 2009;9:63.
[2] Conte D, Fraquelli M, GiuntaM, Conti CB. Gall stones and Liver disease; an overview. *J Gastrointestin Liver Dis*.2011;20:9-11
[3] Basselink MGM, Erpecum KJ. Biliary Colic is a valuable clinical descriptor for Biliary pain due to " uncomplicated" gallstone disease. *J Gastrointest Sung*. 2009;13 (9):1745-6.
[4] Berger MY, Hartman TC, Vander VJJM, Bohnen A. Is biliary pain exclusively related to gall bladder stone? A controlled prospective study. *Br J Gen Pract*. 2004;54 (303):574-9.
[5] Khuroo MS, Mahajan R, Zargar SA, Javid G, Sapru S. Prevalence of biliary tract disease in India: a sonographic study in adult population in Kashmir. Gut. 1989; 30 (2):201-5.
[6] ASGE Guidelines. Patient preparation for gastrointestinal endoscopy. Gastrointest Endosc.1998;48 (6):691-694.
[7] Oddsdottir M, Hunter JG. Gallbladder and the extra-hepatic biliary system. In F. CharlesBrunicard Schwartz's Principles of surgery 8th Ed. McGraw-Hill. New Delhi; 2005:1190-1095.
[8] Gaharwar A. Factors favouring cholelithiasis in North Indian population. IOSR Journal of Pharmacy. 2013;3 (5):01-3.
[9] Thybusch A, Schaube H, Schweizer E, Gollnick D, Grimm H. Significant value and therapeutic implications of routine gastroscopy before cholecystectomy. J Chir. 1996;13 (4):171-4.
[10] Bartosz K, Głuszek S. Need assessment for gastroscopy in patients with gallstones. Polski Przegląd Chirurgiczny. 2010;82 (8):469-78.
[11] Faisal A, Gadallah AN, Omar SA, Nagy MAM Therole of upper gastrointestinal endoscopy inprevention of post-cholecystectomy pain prior theelective surgical therapy of chronic cholecystitis.Med J Cairo Univ. 2013;81 (1):289-93.
[12] Rassek D, Osswald J, Stock W. Routine gastroscopybefore cholecystectomy. Chirurg. 1988; 59 (5):335-7.
[13] Fahlke J, Ridwelski K, Manger T, Grote R, LippertH. Diagnostic workup before laparoscopic cholecystectomy-which diagnostic tools should beused? Hepatogastroenterol. 2001;48 (37):59-65.