

Analysis of Upper Gastro-Intestinal Endoscopic Findings in Patients with Gallstone Disease who Present with Dyspepsia

K Aravind¹, Kalghatgi S², Shubhlaxmi Nayak³, Mukund Kulkarni⁴, Vinayak B⁵

¹Associate Professor, ²Assistant Professor, ⁴Senior Resident, Department of Surgical Gastroenterology, ³Junior Resident, ⁵Senior Resident, Department of General Surgery, KIMS, Hubli, India

Corresponding author: Dr. Suhas Kalghatgi, 18/02, Chitguppi Park, Pinto Road, Hubli, India

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A B S T R A C T

Introduction: Gall stone disease is one of the most prevalent diseases in man with age, gender, ethnicity and lifestyle playing important roles in the formation of gall stones. Most of the gall stones are silent / asymptomatic with only 1 – 4% lifetime risk of becoming symptomatic. Gall stones can have 4 types of clinical presentation. Most commonly they are largely asymptomatic. Gall stones can present with typical biliary colic in about 10 – 25% of patients with pain described as severe right upper quadrant or epigastric pain which ebbs and flows, radiating to right shoulder and back. The main aim of the study was to analyze the upper gastro-intestinal endoscopic findings amongst patients with gallstone disease who presented with dyspepsia.

Material and methods: In the present study, 63 patients with dyspeptic symptoms and radiologically proven cholelithiasis were included. All patients were subjected to EGD. Details of cases were recorded including history and clinical examination and investigations as per the pretested proforma. Upper GI endoscopy was performed to look for significant lesions. All the data thus obtained was arranged in a tabulated form. The results were expressed as percentage of total data. SPSS software was used for analysis.

Results: In the present study, pain abdomen was the most common dyspeptic symptom, accounting for 77.77%, followed by post-prandial fullness which accounted for 63.49%. Other symptoms included nausea (53.96%), heartburn (50.79%), belching (33.33%) and vomiting (14.28%). Out of the 48 patients who underwent medical management, 47 patients (97.92%) were symptom free by the end of 3 months. One patient failed to respond and hence underwent cholecystectomy. Out of 47 patients who responded, 2 patients was post cholecystectomy without significant pre-operative EGD findings.

Conclusion: Routine pre-operative upper GI endoscopy is recommended in all patients with gall-stone disease who present with dyspepsia to avoid unnecessary cholecystectomy.

Keywords: Cholecystectomy, Dyspepsia, Gall stones

INTRODUCTION

Gallstone disease is one of the most common problems affecting the digestive tract.¹ Autopsy reports have shown a prevalence of gallstones from 11 to 36%.¹ A few autopsy studies and clinical reports in the 1960s indicated that gallstones were prevalent in Northern India.² Approximately 15% of subjects with dyspepsia in Sikkim and North Bengal area have gallstones.² Silent gallstones are diagnosed as incidental findings most commonly by abdominal ultrasound done for various unrelated disorders. The previous controversy regarding the management of silent gall stones has been resolved by various prospective studies which have shown that the vast majority of silent gall stones will not cause symptoms or complication during later life. The first elective cholecystectomy was done by Langenbuch. While others were pursuing the construction of biliary fistulae and direct removal of gallstones, Langenbuch observed that because stones were known to recur, others had “busied themselves with the product of the disease, not the disease itself”.³ Laparoscopy and cholecystectomy– the combination

which seemed impossible, both trace their history to the 19th century.⁴ Carl Langenbuch performed the first cholecystectomy at the Lazarus Hospital in Berlin in July 1882. This operation followed scientific experiment, careful thought, cadaver dissections and careful patient selection.⁵ Graham, Cole and Copher called attention to the fact that the calcium salt of tetrabromphenolphthalein when injected intravenously permits the visualization of the gall-bladder with the Rontgen-ray.⁶ Gallstones may remain asymptomatic, being detected incidentally as imaging is performed for other symptoms.⁷ Biliary colic is typically present in 10–25 per cent of patients. This is described as a severe right upper quadrant or epigastric pain which ebbs and flows associated with nausea and vomiting. Pain may radiate to the chest and back. Atypical presentation of gallstone disease is common. The pain may be located primarily in the back or the left upper or lower right quadrant. Bloating and belching may be present and associated with the attacks of pain.⁸ The main aim of the study was to analyze the upper gastro-intestinal endoscopic findings amongst patients with gallstone disease who presented with dyspepsia.

MATERIAL AND METHODS

The present prospective study was conducted in the Department of surgery of KIMS hospital, Hubli. The study consisted of 89 patients attending OPD or admitted to ward. Out of which, 26 were lost for follow-up. Considering the inclusion and exclusion criteria, 63 patients were included in the study. Subjects who were more than 18 years of age having single or multiple stones in gall bladder were included in the study. All the patients were informed about the study and a written consent was obtained from all in their vernacular language. Ethical committee clearance was obtained from the institutional ethical committee prior to initiation of the study. Patients with acute abdomen, biliary colic pain, unstable general condition, having haemolytic anaemia or any complication associated with gall stone were excluded from the study. Patients who have undergone cholecystectomy were also excluded from the study. Details of cases were

Symptoms	Frequency	Percentage
Pain abdomen	49	77.77
Heart burn	32	50.79
Belching	21	33.33
Post prandial fullness	40	63.49
Nausea	34	53.96
vomiting	9	14.28

Table-1: Incidence of dyspeptic symptoms

Symptoms	Frequency	Percentage
Pain abdomen + Heartburn	8	12.69%
Pain abdomen + Post-prandial Fullness	6	9.52%
Pain abdomen + Post-prandial Fullness + nausea	6	9.52%
Pain abdomen + Nausea	4	6.34%
Pain abdomen + Heartburn + postprandial Fullness + nausea	4	6.34%
Pain abdomen + Heartburn + Belching + postprandial Fullness	3	4.76%
Pain abdomen + Belching + postprandial Fullness	3	4.76%
Pain abdomen + Heartburn + Belching + post Prandial fullness + nausea and Vomiting	2	3.17%
Heart burn + Belching + nausea	2	3.17%
Post prandial Fullness	2	3.17%
Post prandial Fullness + nausea	2	3.17%
Pain + heart burn + Nausea	2	3.17%
Pain + heart burn + Vomiting	2	3.17%
Belching + post Prandial fullness	1	1.59%
Belching + post Prandial fullness + nausea	1	1.59%
Heart burn + Belching + post Prandial fullness	1	1.59%
Heart burn + Belching + post Prandial fullness + nausea	1	1.59%
Heart burn + Belching + post Prandial fullness + nausea + Vomiting	1	1.59%
Heart burn + Nausea	1	1.59%
Heart burn + post Prandial fullness	1	1.59%
Heart burn + post Prandial fullness + nausea	1	1.59%
Pain + belching	1	1.59%
Pain + belching + Nausea	1	1.59%
Pain + belching + Post prandial Fullness + nausea	1	1.59%
Pain + heart burn + nausea + vomiting	1	1.59%
Pain + post Prandial fullness + nausea + vomiting	1	1.59%
Pain + post Prandial fullness + nausea + vomiting + fever	1	1.59%
Pain+ heart burn + Belching + nausea	1	1.59%

Table-2: Incidence of symptom complex

recorded including history and clinical examination and investigations as per the pretested proforma. Upper GI endoscopy was performed to look for significant lesions. Patients with significant EGD findings were treated with anti-ulcer treatment (PPIs, anti *H. pylori* and sucralfate) for 4 to 6 weeks and observed for resolution of symptoms. Surgery was considered in case of non-resolution of symptoms and in patients with normal EGD study.

STATISTICAL DATA

All the data thus obtained was arranged in a tabulated form. The results were expressed as percentage of total data. SPSS software was used for analysis.

RESULTS

The most common age group involved in our study was 30-60 years. The mean age group involved in the study was 37.43 +/- 10.79 years. The study involved 30 males and 33 females. Table 1 shows the dyspeptic symptoms that were commonly encountered in the subjects. Pain abdomen was the most common dyspeptic symptom, accounting for 77.77% (n=49), followed by post-prandial fullness which accounted for 63.49% (n= 40). Other symptoms included nausea (53.96%), heartburn (50.79%), belching (33.33%) and vomiting (14.28%).

Table 2 shows the complex of symptoms involved in the study. Pain abdomen and heartburn was seen in 12.69% subjects,

which was the most common symptom complex. The next most common symptom complex was pain abdomen + post-prandial fullness and pain abdomen + post-prandial fullness + nausea seen in approximately 9.52% (n=6) subjects. Pain in abdomen+ nausea and pain in abdomen +heart burn + post prandial fullness+ nausea was seen amongst 4.76% (n=3) subjects. There were 3.17% (n=2) subjects having heart burn + belching + nausea, post prandial Fullness, post prandial fullness + nausea, pain + heart burn + Nausea and pain + heart burn +vomiting. There were 1.59% (n= 1) subject each having heart burn + post Prandial

Incedence	Frequency	Percentage
EDG finding	46	73.02%
No EDG finding	17	26.98%

Table-3: Incidence of EDG findings

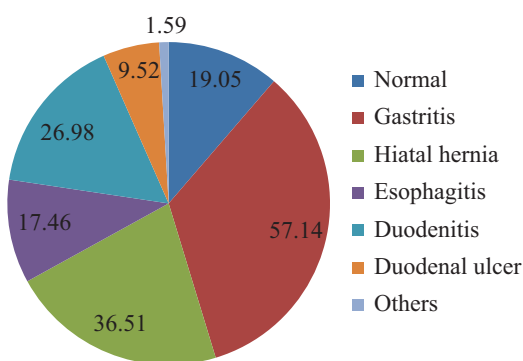


Figure-1: Types of EDG findings

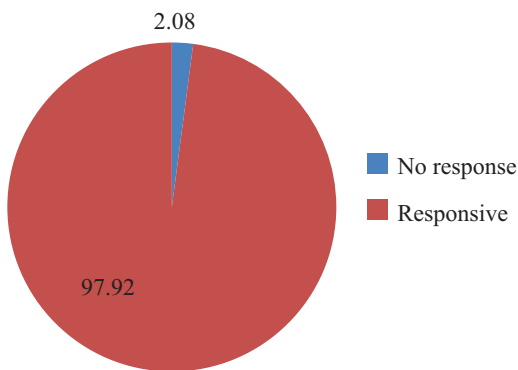


Figure-2: Medical management of the subjects

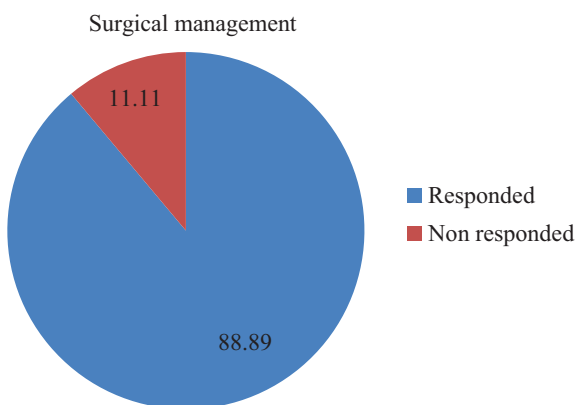


Figure-3: Surgical management of the subjects

fullness, heart burn + post prandial fullness, heart burn + belching + post prandial fullness + nausea + vomiting and pain + belching.

Table 3 shows incidence of EDG findings. In the present study, out of 63 patients with GSD who were subjected to EGD, 46 patients (73.02%) had positive upper gastrointestinal findings and 17 patients (26.98%) had negative EGD.

Figure 1 shows the EDG findings observed in our study. In patients having clinically significant EGD findings, gastritis/gastric ulcer (57.14%) accounted for the most common finding, followed by hiatal hernia (36.51%). Duodenal ulcer was seen amongst 9.52% subjects. There were 17.46% patients having esophagitis. Duodenitis was seen in 19.05% patients. No EGD related complications were seen during the study.

Figure 2 and 3 shows the result of medical and surgical management. There were 48 patients who underwent medical therapy. 47 patients (97.92%) were symptom free by the end of 3 months. One patient failed to respond and hence underwent cholecystectomy. Out of 47 patients who responded, 1 patient was post cholecystectomy without significant pre-operative EGD findings. Out of 18 patients who underwent cholecystectomy, 16 patients were symptom free by 3 months. Two patients with insignificant pre-operative EGD findings continued to be symptomatic and was subjected to medical management for which they responded

DISCUSSION

In the present study, the most common age group presenting with cholelithiasis and dyspepsia was between 30 to 60 years, accounting for 68.25%, followed by 18 to 30 years age group with 19.05%. Similar findings were found in a study by Sasoda et al⁹ with 30 to 60 years age group accounting for 60%, age group of more than 60 years accounting for 32% and age group of less than 30 years accounting for 8%. In a study conducted by Gaharwar et al¹⁰, the age group between 30-60 years accounted for 81.81%, age more than 60 years for 3.03% and age less than 30 years accounted to 15.16%. Since both gallstones and dyspepsia are common in middle-ages, this finding is consistent with the general population. In the present study, cholelithiasis with dyspepsia was more common in females, constituting 52.38% of the study group. Similar findings were noted in a study by Mozafar et al¹¹, in which, females accounted for 74.15% of the study group, followed by Ure et al¹² with 75% and Gaharwar et al¹⁰ with 91.66%.

Although the prevalence is more common in females in both the studies, the difference between male and female prevalence is less in the present study compared to Mozafar et al¹¹. The difference could be explained by the fact that our study population had higher intake of spicy food intake along with smoking and tobacco chewing which could have led to higher prevalence in males. In the present study, pain abdomen was the most common dyspeptic symptom, accounting for 77.77%, followed by post-prandial fullness which accounted for 63.49%. In a study by Berger et al¹³, pain abdomen was the most common symptom accounting for 89% in congruence with the present study. But, belching (77.77%) and nausea

(74.28%) constituted the next most common symptoms. In a study by Ure et al¹² and Rashid et al¹⁴, pain abdomen was the most common symptom accounting for 82.9% and 75% respectively. On subjecting the patients of GSD with atypical symptoms to EGD, abnormal upper GI findings were found in 73.02% of patients in the present study, in 30.20% of patients in the study by Schwenk et.al¹⁵, in 31% of patients in a study by Dietrich et.al¹⁶ and in 52.70% of patients in the Thybusch⁶⁵ et.al series. In the present series, 26.98% of the study group had normal study. In patients having clinically significant EGD findings, gastritis/gastric ulcer (57.14%) accounted for the most common finding. In Bartosz series¹⁷, 29.7% of the study group had normal EGD study. Gastritis/gastric ulcer was the most common significant finding, accounting for 43.6%, followed by duodenitis (17.3%), hiatal hernia (16.10%), duodenal ulcer (8.30%). The percentage of normal EGD was lower in the present study compared to Ibrahim et al. This could be due to high incidence of smoking, tobacco/gutkha chewing and spicy food intake in our study group. In a study by Ibrahim et al¹⁸, in the surgical group, symptoms disappeared completely in (72)85% after three months. In the patients treated conservatively, the symptoms disappeared completely in (22)85% at three months.^{19,20} This supported the fact that GSD was not the sole cause of abdominal symptoms in these patients. Fewer limitations of our study were smaller sample size thereby affecting the power of study and inter observer variations may interfere with the yield of the findings at endoscopy

CONCLUSION

Dyspepsia with gall-stones was commonly seen in females in 30-60 year age group. The most common dyspeptic symptom was pain abdomen, followed by, postprandial fullness, nausea and heartburn, in decreasing order. Patients presenting with dyspepsia and gall-stones, having significant EGD findings, should be treated initially by medical management. Routine pre-operative upper GI endoscopy is recommended in all patients with gall-stone disease who present with dyspepsia to avoid unnecessary cholecystectomy.

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