



## PROSPECTIVE STUDY OF RELATION OF HELICOBACTER PYLORI IN PATIENTS WITH CHOLELITHIASIS AND DYSPEPSIA

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### ABSTRACT

**Introduction:** There are significant number of patients with cholelithiasis do not have post prandial pain but are instead plagued by dyspepsia, vague epigastric discomfort or even mildly increased flatulence as primary manifestation of their biliary stone disease. Such patients are less likely to have a satisfactory outcome following cholecystectomy. This study focuses on the presence of H. Pylori in gastric mucosa of patients with cholelithiasis. Aim of this study is establish the association of Helicobacter pylori in gastric mucosa of patients with cholelithiasis and dyspepsia. **Material and Method:** This study include the 50 cases of cholelithiasis and post cholecystectomy in the Department of Surgery, J.A. Group of Hospitals, Gwalior. Study includes patients with complaints of dyspepsia, bloating and fullness, abdominal pain, nausea and vomiting. Upper gastrointestinal fiber optic endoscopy was done and examine esophagus stomach and first and second part of the duodenal. Rapid urease test done and biopsy is taken. Urea was present in biopsy and urea split to produce carbon dioxide and ammonia and the colour change from yellow to pink. Demonstration of bacteria by biopsy with hematoxylin and eosin stain. **Result:** This study found that H. pylori is frequent in patient of cholelithiasis and also in patient with dyspepsia. Dyspepsia seems to act synergistically with helicobacter pylori in gastric pathology. **Conclusion:** Coexistent Helicobacter pylori and upper gastrointestinal lesions are more common in Indian population as compared to the western statistics. Dietary habits do play a significant role. Females having cholelithiasis are more likely to have upper gastrointestinal associated lesions. H pylori infection was present in 66.66% of patients with endoscopic dyspepsia and 80.76% of patients without endoscopic dyspepsia. that Helicobacter Pylori is frequent in patients of cholelithiasis and also in patient with dyspepsia. Dyspepsia seems to act synergistically with Helicobacter pylori in gastric pathology.

### INTRODUCTION

It is apparent that a significant number of patients with cholelithiasis do not have post prandial pain but are instead plagued by dyspepsia, vague epigastric discomfort or even mildly increased flatulence as primary manifestation of their biliary stone disease. Such patients are less likely to have a satisfactory outcome following cholecystectomy.

It is also widely accepted that helicobacter pylori infection causes chronic active gastritis and peptic ulcer and also plays a role in gastric carcinogenesis. In addition, it has been recently reported that H. Pylori infection may induce dyspepsia both in patients who underwent partial gastrectomy and also in patients which intact stomach.

Upper GI Endoscopy combined with Rapid Urease test to detect the presence of dyspepsia and H. Pylori appears to have a major role in preoperative assessment of all cases being considered for elective cholecystectomy.

This study focuses on the presence of H. Pylori in gastric mucosa of patients with cholelithiasis and also the; increased incidence of Dyspepsia in such patients so that if these lesions are detected prior to operation, they may be treated preoperatively or postoperatively.

Aim of this study was to establish an association of Helicobacter Pylori in gastric mucosa of patients with cholelithiasis and dyspepsia and to establish the significance of upper GI endoscopy and Rapid Urease test as a routine pre-operative procedure for assessment of cases being considered for cholecystectomy.

### MATERIAL AND METHOD

This study includes 50 cases of Cholelithiasis and post cholecystectomy, chosen at random, who presented to the Department of Surgery, J.A. Hospital, Gwalior

**Inclusion Criteria:** - 50 cases were taken with complaints of

1. Dyspepsia
2. Bloating and fullness

3. Abdominal pain
4. Nausea and vomiting

The presence of dyspepsia in gastric fluid at endoscopic examination was recorded.

Biopsy specimens were taken in the Antrum incisura angularis and in the gastric body (three specimens from site) as recommended in the updated Sydney system classification of gastritis.

Helicobacter Pylori infection was detected with rapid urease test.

The endoscope used was an Olympus model OGF, fiberoptic esophagogastric duodenoscope.

Pharyngeal Anesthesia (Sedation) was achieved by 4% Lignocaine spray and viscous. It prevents gag reflex.

In esophagus, the gastro esophageal junction is carefully examined to know features of patulous esophagogastric (lower esophageal) sphincter, gastroesophageal reflux, Reflux esophagitis, Barrett's esophagus, any mucosal erosions or ulceration or growth. The gastroesophageal junction is encountered at approximately 40 cm from incisors (+2cm variation).

In stomach, the lesser curve is followed and pylorus is visualized. Incisura angularis appears as a transverse ridge at upper part of the field (common site for gastric ulcer).

In examination, prepyloric region is inspected carefully. Ist and IInd part of duodenum is seen.

For a single test 1 ml of rapid urease solution was taken in a test tube. The rapidity of reaction can be increased if

we use distilled water instead of buffer solution.

The biopsy specimen was inoculated into a medium containing urea with pH sensitive dye at room temperature. If urease was present in the biopsy specimen, Urea splits to produce carbon dioxide and ammonia and the ammonia causes a rise in pH and concomitant color change. The color change was noted after every ½ hr for first 2 hours and then at 24 hours.

### HISTOLOGY

Demonstration of bacteria in endoscopic biopsy specimen or gallbladder mucosa. Stains used in combined method triple staining technique are Warthin starry stain, hematoxylin and eosin stain.

Ultrasonography to diagnose gallstone disease is noninvasive and is used as the initial imaging technique for the investigation of the patient suspected to have gall stones.

### RESULTS

The present comprises of detailed analysis of 50 patients of either cholelithiasis or post cholecystectomy who were subjected to esophagogastroduodenoscopy.

Most of the cases were found belonging to age group between 40 to 50 years. Among the study cases 10 were male and 40 were female with the male/female ratio of 1:4. Endoscopic abnormalities were observed in 7 males (71%) and 31 (77.5%) female. Cases belonging to lower socio-economic status had higher incidence of positive endoscopy as compared to upper socio- economic group.

Upper gastrointestinal lesions were associated more with those patients who had meals rich in spices.

**Table 1: Pain In Abdomen As Presenting Symptom, Its Incidence Site And Correlation With Endoscopic Abnormalities.**

S.No.	Site of pain & Tenderness	No of cases	Cases with positive endoscopy	Percentage of + ve endoscopy
1	Epigastrium only	10	7	70.1%
2	Right Hypochondrium and epigastrium	10	7	70%
3	Right Hypochondrium	20	18	90%
4	Left Hypochondrium and epigastrium	2	2	100
	<b>Total</b>	<b>42</b>	<b>34</b>	<b>80.95</b>

Eight patients never experienced any pain in abdomen. Of the 42 patients with pain in abdomen.

**Table 2: Presenting Complaints Other Than Pain In Abdomen.**

S.No	Symptoms	No. of patients	Percentage
1	Dyspepsia	34	68%
2	Retrosternal Burning	12	24%
3	Nausea and Vomiting	10	20%
4	Jaundice	4	8%
5	Fever with Chills	2	4%

Commonest complaint after pain in abdomen was of dyspepsia with relative incidence of 68%.

Dyspepsia was the symptom which showed maximum association with upper gastrointestinal lesions 79.41% positivity on relative incidence.

**Table 3: The Spectrum of Upper Gastrointestinal Pathologies Detected By The Esophagogastroduodenoscopy. A. Upper Gastrointestinal Mucosal Lesions.**

S. no.	The lesion	No. of cases	Percentage of positive endoscopy	Percentage of total cases
1.	Esophagitis	16	46.66	32
2.	Gastro Esophageal Reflux	12	36.3	24
3.	Gastric Ulcer	2	3.3	4
4.	Chronic gastritis	9	30	22.5
5.	Chronic duodenitis	8	26.66	20
6.	Duodena ulcer	2	3.3	4.1
7.	Pseudo Diverticulum	2	3.3	4.1
8.	H. Pylori	28	93.33	70
9.	Dyspepsia	24	76.66	48

Out of 50 patients, 28 patients were positive H. pylori during endoscopy.

**Table 4: Incidence of h. Pylori in pateints with dyspepsia.**

S.NO.	Incidence of H Pylori	Percentage of positive endoscopy	Percentage of total cases
1.	Patients with dyspepsia (24)	16	66.66%
2.	Patients without Dyspepsia (26)	21	80.76%

Among the patient show that H. pylori was associated with dyspepsia in case out of 24 reflexes i.e. 66.66% were 21 i.e. 80.76% cases out of 26 non-refluxes.

Out of 30 cases 22 patients had H. Pylori infection on endoscopy and in them eradicating medical treatment was started their symptomatology was reviewed and patients.

#### DISCUSSION

In the present study, upper gastrointestinal fiberoptic endoscopy with Rapid urease test for Helicobacter Pylori in Gastric mucosa establish the significance of esophagogastroduodenoscopy and Helicobacter Pylori in preoperative assessment of patients of cholelithiasis by finding out the incidence of coexistent Helicobacter Pylori and upper gastrointestinal lesions in these patients.

In our study the incidence of positive endoscopic findings was higher as compared to the western figures.

On evaluation of symptoms other than pain, endoscopic abnormalities were seen more frequently associated in Dyspepsia with 27 out of 34 such patients showing positive endoscopic findings.

Our study shows that six cases out of 50 cases were deferred surgery indicating that 12% of cases did not need cholecystectomy as primary symptoms of the patients were due to upper gastrointestinal pathology and not gall stones.

All the cases with normal upper GI endoscopy (12 cases out of 50) responded well to operative treatment. Similarly, 28 cases out of 37 cases with endoscopic abnormality also responded, well to medical therapy. Out of these 37 cases, 6 did not need operative intervention while rest 22 needed combined operative and medical therapy.

The above findings establish the significant association of the Helicobacter Pylori and upper GI lesions with cholelithiasis.

#### CONCLUSION

May interesting observations in our study have been discussed. Cholelithiasis continues to occur more commonly in females, commonly affected age group being fourth to sixth decade. Socio economic status appears to play a significant role as people belonging to lower socioeconomic status have a high incidence of H. Pylori as was evident in our study group. Coexistent Helicobacter pylori and upper gastrointestinal lesions are more common in Indian population as compared to the western statistics. Dietary habits do play a significant role. Indian population is more prone to development of esohpagitis and gastroesophageal reflux. Females having cholelithiasis are more likely to have upper gastrointestinal associated lesions. Site of pain and tenderness in abdomen has a significant correlation with the associated upper gastrointestinal pathology. On evaluation of symptoms other than pain, endoscopic abnormalities were seen more frequently when complaint of retrosternal burning was prominent. H pylori infection was present in 66.66% of patients with endoscopic dyspepsia and 80.76% of patients without endoscopic dyspepsia. We found a trend toward higher prevalence of H Pylori in Non dyspepsia.

Thus, we conclude, that adequate and proper assessment criteria should be applied in a case diagnosed as cholelithiasis and upper gastrointestinal fiberoptic endoscopy should be included as a mandatory mode of investigation in all cases being considered for surgical management; of gall stones.

This study found that Helicobacter Pylori is frequent in patients of cholelithiasis and also in patient with dyspepsia. Dyspepsia seems to act synergistically with

*Helicobacter pylori* in gastric pathology.

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