

PREVALENCE OF HELICOBACTER PYLORI IN PATIENTS WITH DYSPEPSIA UNDERGOING UPPER GASTRO INTESTINAL ENDOSCOPY IN TERTIARY CARE HOSPITAL

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ABSTRACT

BACKGROUND

Acid peptic disease comprises of a wide spectrum of diseases, which cause considerable morbidity. Helicobacter pylori, a curved rod-shaped bacterium, has been consistently associated with patients suffering from acid peptic diseases, more in ulcer disease than in non-ulcer disease. Due to this high association, it is now believed that Helicobacter pylori plays an important role in the aetiopathogenesis of acid peptic disease. Several studies have revealed the association of Helicobacter pylori in 70-75 percent of patients with dyspepsia. Endoscopic studies have shown that, Helicobacter pylori is found in 80-100% of patients with duodenal ulcers and 60-75 per cent of patients with gastric ulcers. Amidst these profound variations proposed by many workers in the previous studies, we have attempted to study the prevalence of Helicobacter pylori in patients undergoing upper gastro-intestinal endoscopy at our hospital and its association with acid-peptic disease. The objectives of this study were- 1. To study the prevalence of Helicobacter pylori in patients with dyspepsia undergoing upper gastrointestinal endoscopy. 2. To study the association of Helicobacter pylori with acid peptic Diseases.

MATERIALS AND METHODS

344 cases of dyspepsia were studied clinically as per the proforma over a period of one and half years from July 2014 to October 2015. The inclusion and exclusion criteria were as follows;

RESULTS

Out of 344 patients, there were 224 male patients and 120 female patients, age ranging from 19 years to 60 years (Mean-44.8). Out of 344 patients, 156 patients were diagnosed to have been infected with Helicobacter pylori (45.3%).

CONCLUSION

This was a prospective study conducted to determine the role of Helicobacter pylori in acid-peptic diseases. This study design was based on clinical study and endoscopic biopsy of gastric mucosa (and duodenal mucosa whenever necessary) in 344 patients with a history of dyspepsia. Endoscopy confirmed the diagnosis. Rapid urease test and Giemsa staining were conducted on endoscopy biopsy specimens and Helicobacter pylori positivity was based on either Rapid urease test and/or histopathological examination was positive. From the present study it is evident that, there was no specific symptom attributable to H. pylori infection. Helicobacter pylori infection is more common in males than females. Helicobacter pylori is consistently associated with peptic ulcer disease than non-ulcer dyspepsia, which is in broad agreement with the studies done earlier. Thus we conclude that, Helicobacter pylori infection may have a role in the aetiopathogenesis of peptic ulcer disease. There appears to be no significant association between Helicobacter pylori infection and dyspeptic cases with normal endoscopy. This finding does not exclude the possibility that a small undefined subset of infected individuals will have symptoms induced by the infection, but only large randomized trials will be able to establish this. Hence, we recommend eradication of the bacteria only in patients positive for the bacterium, who have peptic ulceration. We believe in, Peter C Robin's dictum: "If a person with peptic ulcer disease is shown to have Helicobacter pylori, then eradication is indicated".

KEYWORDS

Helicobacter Pylori, Upper Gi Endoscopy, Peptic Ulcer Disease.

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BACKGROUND

Acid peptic disease comprises of a wide spectrum of diseases, which cause considerable morbidity. Helicobacter pylori, a curved rod-shaped bacterium, has been consistently associated with patients suffering from acid peptic diseases, more in ulcer disease than in non-ulcer disease. Due to this high association, it is now believed that Helicobacter pylori plays an important role in the aetiopathogenesis of acid peptic disease.^{1,2}

Several studies have revealed the association of *Helicobacter pylori* in 70-75 percent of patients with dyspepsia. Endoscopic studies have shown that, *Helicobacter pylori* is found in 80-100 per cent of patients with duodenal ulcers and 60-75 per cent of patients with gastric ulcers.³

Amidst these profound variations proposed by many workers in the previous studies, we have attempted to study the prevalence of *Helicobacter pylori* in patients undergoing upper gastro-intestinal endoscopy at our hospital and its association with acid-peptic disease.

Aims and Objectives

1. To study the prevalence of *Helicobacter pylori* in patients with dyspepsia undergoing upper gastrointestinal endoscopy.
2. To study the association of *Helicobacter pylori* with acid peptic diseases.

MATERIALS AND METHODS

344 cases of dyspepsia were studied clinically as per the proforma over a period of one and half years from July 2014 to October 2015. The inclusion and exclusion criteria were as follows;

Inclusion Criteria

1. Patients between 19-60 years of age.
2. Patients having chronic upper abdominal pain.
3. Patients showing symptoms of dyspepsia.
4. Patients diagnosed as having chronic gastritis, gastric/duodenal ulcers on gastro-duodenoscopy.

Exclusion Criteria

1. Pregnant and Lactating women.
2. Patients on Proton-pump inhibitors.
3. Patients who are known cases of chronic pancreatitis.
4. Patients who have received Anti-*Helicobacter pylori* treatment.
5. Patients with oesophageal growths on endoscopy
6. Unwilling or unfit patients for gastroscopy.

After applying the inclusion and exclusion criteria, all the patients underwent upper gastro-intestinal endoscopy. According to the endoscopy findings the patients were divided into following groups.

1. Non-ulcer dyspepsia
 - a. Normal study.
 - b. Gastritis/Duodenitis.
2. Ulcer dyspepsia
 - a. Duodenal ulcer.
 - b. Gastric ulcer.
 - c. Carcinoma of Stomach.

In this study, there were cases of oesophageal carcinoma which were excluded from the study. There were 46 cases which had features of both gastritis and duodenitis. There were 09 cases of duodenal ulcer which additionally showed features of gastritis or duodenitis or both.

Procedure- All the patients in this study group, both in-patient as well as out-patient underwent upper gastrointestinal endoscopy under topical anaesthesia. The patients were asked to fast for 12 hours prior to the procedure. The cases admitted with gastric outlet obstruction were given stomach wash the night before and the morning of the day on which the procedure was scheduled. Only a few patients were given 5-10 mg diazepam intravenously for sedation depending on the preference of the consultants. Lignocaine viscous were given to the patient 5- 10 minutes before the procedure for the local anaesthetic effect. The upper gastrointestinal endoscopy was conducted with Pentax 29 P, flexible, fibre-optic endoscope [Photo-1 & 2] with patients in left lateral positions.



Figure 1. Pentax Fiber-optic Upper G.I. scope used for the Study

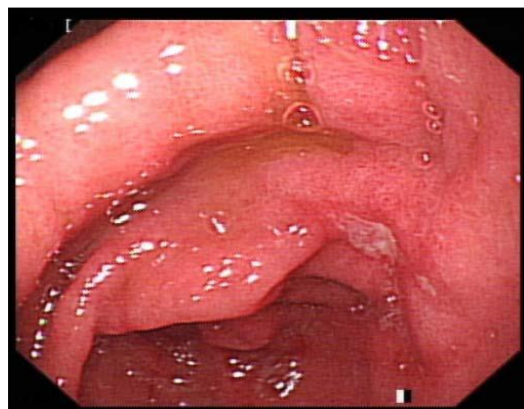


Figure 2. Endoscopic View of an Antral Gastric Ulcer



Figure 3. Endoscopic view of a Ulceroproliferative Growth at the Cardiac End

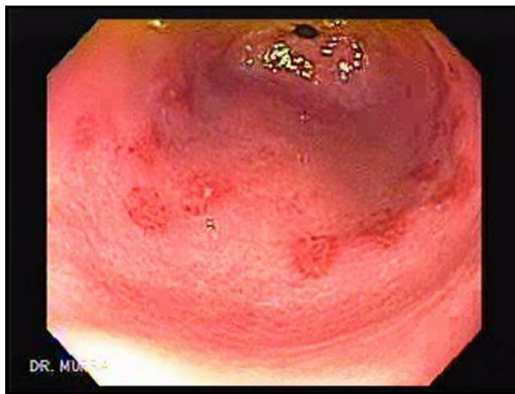


Figure 4. Endoscopic View of Chronic Antral Gastritis



Figure 5. Endoscopic View of Acute Duodenal Ulcer with Duodenitis



Figure 6. Endoscopic View of Chronic Duodenal Ulcers



Figure 7. Endoscopic Biopsy Forceps



Figure 8. Rapid Urease Test Showing Change in Colour to Pink



Figure 9. An Antral Gland of the Stomach with Giemsa-stained Colony of Helicobacter Pylori in the Lumen (1000X)

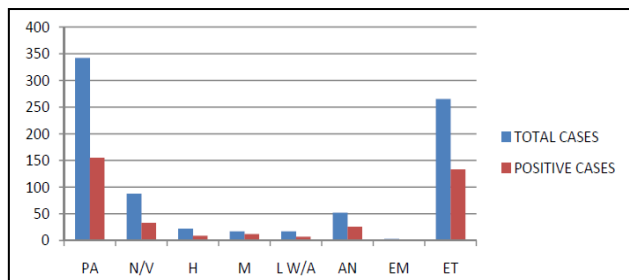
RESULTS

Out of 344 patients, there were 224 male patients and 120 female patients, age ranging from 19 years to 60 years (Mean- 44.8). Out of 344 patients, 156 patients were diagnosed to have been infected with Helicobacter pylori (45.3%).

All these patients presented to our hospital with upper abdominal pain or discomfort. Out of 88 patients presented with nausea or vomiting, 33 had Helicobacter pylori infection. Out of 22 patients had haematemesis, 9 patients were positive for Helicobacter pylori infection. Out of 17 patients had melena, 12 turned out to be Helicobacter pylori positive. Seventeen (17) patients also had loss of weight or appetite on presentation. Of them, 7 patients were positive for Helicobacter pylori. On examination of these patients, 52 patients were anaemic out of whom 26 patients were positive for Helicobacter pylori. Of these 344 patients, 265 patients had epigastric tenderness on palpation and 3 patients had an epigastric mass palpable. Of these 265 patients, 133 patients were tested positive for Helicobacter pylori and of those 3 patients, who had an epigastric mass, only 1 patient was positive for Helicobacter pylori.

Clinical Presentation	Number of Cases	H. pylori Positive	Percentage
Abdominal pain/discomfort	344	155	45.32
Nausea/Vomiting	88	33	37.50
Haematemesis	22	9	40.90
Malena	17	12	70.58
Loss of Weight/Appetite	17	7	41.17
Anaemia	52	26	50.00
Epigastric mass	3	1	33.33
Epigastric tenderness	265	133	50.18

Table 1. Prevalence of Helicobacter pylori in various clinical presentations in patients with dyspepsia



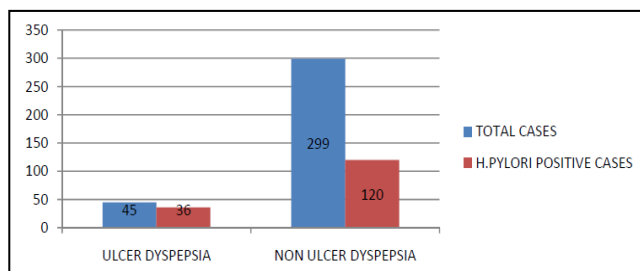
Graph 1. Prevalence of Helicobacter Pylori in Various Clinical Presentations of Dyspepsia

Depending on the endoscopic findings, all these patients were categorized into 2 groups-

- A) Ulcer Dyspepsia
- B) Non-Ulcer Dyspepsia.

Cases	Total Number	H.pylori Positive	%
Ulcer Dyspepsia	45	36	80.00
Non-Ulcer Dyspepsia	299	120	40.13

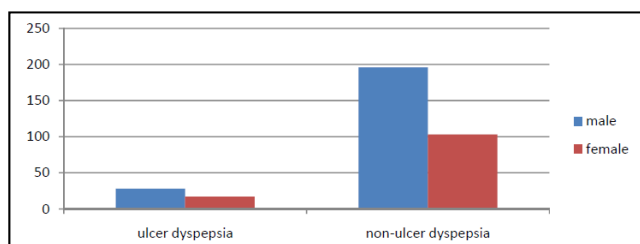
Table 2. Prevalence of Helicobacter Pylori in Various Groups



Graph 2. Prevalence of Helicobacter Pylori in Various Groups

Cases	Male : Female	Age Range	Mean Age
Ulcer Dyspepsia	28 : 17	19- 60 yrs.	49.57
Non-Ulcer Dyspepsia	196 : 103	19- 60 yrs.	40.56

Table 3. Age and Sex Prevalence in Various Groups



Graph 3. Sex Prevalence in Various Groups

A) Ulcer Dyspepsia

In this group there were 45 patients, out of which there were 28 males and 17 females. The age range was from 19 years to 60 years (Mean- 49.57) (Graph-3). 36 out of these 45 patients were infected with Helicobacter pylori (80.00%).

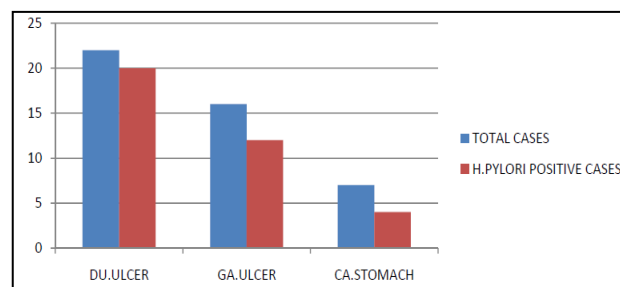
This group was further divided into 3 subgroups: (Graph-4)

1. Duodenal Ulcer
2. Gastric Ulcer
3. Carcinoma Stomach.

Duodenal Ulcer- Out of 22 patients, 15 males and 7 females who had duodenal ulcer, there were 20 patients were infected with Helicobacter pylori (88.00%). There were 14 male patients and 6 female patients in this group. The age range was from 19 years to 60 years (Mean- 47.12). On Chi-square test, $\chi^2=23.84$, $p<0.01$, hence there is a significant association of Helicobacter pylori with duodenal ulcers.

Gastric Ulcer- There were 16 patients, 9 males and 7 females who had gastric ulcer, of which 12 patients were infected with Helicobacter pylori (75.00%). In this group, there were 7 males and 5 female patients. Their age range was from 19 years to 60 years (Mean- 50.36). On applying Chi-square test, $\chi^2= 9.75$, $p<0.01$, thus we found a significant association of Helicobacter pylori with gastric ulcers in our study.

Carcinoma Stomach- Out of 7 cases of carcinoma stomach that were diagnosed, there were 4 males and 3 females out of which 3 males and 1 females were positive for Helicobacter pylori (57.00%). The age range was from 19 years to 60 years (Mean- 54.6). On Chi-square test, $\chi^2= 1.53$, $p>0.05$, hence no significant association was found between Helicobacter pylori and gastric cancer in our study.



Graph 4. Prevalence of Helicobacter Pylori in Ulcer Dyspepsia

B) Non-Ulcer Dyspepsia

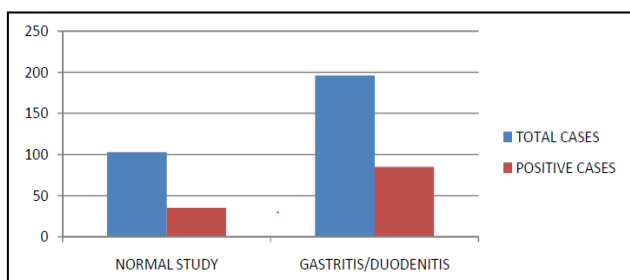
In this group, there were 299 patients out of which 120 patients were infected with *Helicobacter pylori* (40.13%). There were 196 male patients and 103 female patients in this group. The age range was from 19 years to 60 years (Mean- 40.56).

This group was further divided into- (Graph-5)

1. Normal Study
2. Gastritis/Duodenitis.

Normal Study- These patients presented symptoms of dyspepsia, but the upper G.I endoscopy was normal. There were 103 patients in this group out of which 35 were found to be positive for *Helicobacter pylori* infection (33.90%). Out of 103 patients, 64 were males and 39 were females. The age range was from 19 years to 60 years (Mean- 42.45).

Gastritis/Duodenitis- In this subgroup there were 196 patients, of which 85 were infected with *Helicobacter pylori* (43.00%). There were 132 males and 64 females. The age range was from 19 years to 60 years (Mean- 39.44). On Chi-square test, $\chi^2 = 2.47$, $p > 0.05$, hence there was no significant association between *Helicobacter pylori* and gastritis/duodenitis in our study.



Graph 5. Prevalence of Helicobacter Pylori in Non-Ulcer Dyspepsia

Out of the 156 patients with *Helicobacter pylori* infection, 36 had Ulcer Dyspepsia (23.07%). Remaining 120 patients (76.93%) even though having *Helicobacter pylori* infection did not have ulcer diseases.

Out of the 156 patients who were *H. pylori* positive, 12 patients were negative for Rapid urease test but positive for the histopathological examination and Giemsa staining (False negative). There were also 5 cases which were positive for the Rapid Urease test but negative on histopathological examination (False positive). Thus, in our study, Rapid urease test had a sensitivity of 97.10% and specificity of 94.80% when compared with histopathology.

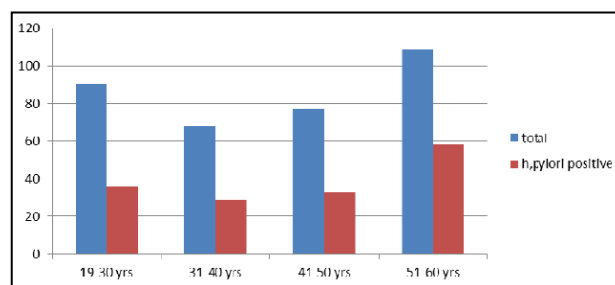
In the histopathological tests, out of 151 positive cases, 143 cases were positive for both H&E and Giemsa staining. 8 cases were negative on H&E staining but positive on Giemsa staining whereas all positive cases of Giemsa staining were also positive for H&E staining. Thus H&E and Giemsa stains were in accordance with each other in 95% cases.

Cases	Total Number	H.Pylori Positive	%
Normal Study	103	35	33.90
Gastritis/Duodenitis	196	85	43.00
Duodenal Ulcer	22	20	88.00
Gastric Ulcer	16	12	75.00
Carcinoma of the Stomach	7	04	57.00

Table 4. Prevalence of Helicobacter Pylori in Various Sub-groups

Age Groups	Mean Age	Total Cases	H. Pylori Positive	Percentage
19-30	25.22	90	36	40 .19
31-40	35.54	68	29	37 .66
41-50	46.01	77	33	42 .52
51-60	56.15	109	58	52 .84
15-60	44.7	389	156	44 .21

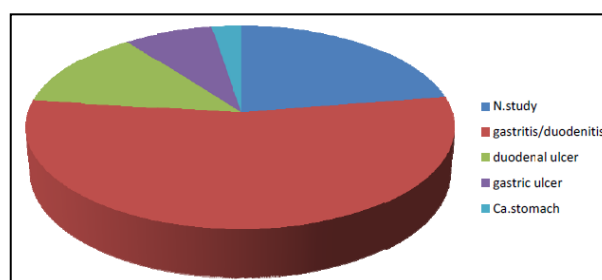
Table 5. Prevalence of Helicobacter Pylori in Various Age-groups



Graph 6. Prevalence of Helicobacter Pylori in Various Age- Groups

Endoscopic Findings	H.pylori Positive	%
Normal Study	35	22.4 0
Gastritis/Duodenitis	85	54.4 8
Duodenal Ulcer	20	12.8 2
Gastric Ulcer	10	7.6 9
Ca Stomach	04	2.5 6
Total Cases	156	100

Table 6. Prevalence of H.pylori Infection in Various Subgroups



Graph 7. Prevalence of H.pylori Infection in Various Subgroups

DISCUSSION

After the discovery of *Helicobacter pylori* by Marshall and Warren in 1983, many studies were conducted to confirm the association of *Helicobacter pylori* with various acid-peptic diseases and carcinoma stomach. The following observations were made-

1. The treatment of *Helicobacter pylori* led to the reversal of gastritis in patients with chronic non-specific gastritis.
2. The eradication of *Helicobacter pylori* decreases the relapse of peptic ulcer to 1%-3% when compared to 80% relapses in patients with persistent *Helicobacter pylori* infections after medical management.

In spite of the above findings, the cause-and-effect relationship between *Helicobacter pylori* and peptic ulcer disease is not proved and furthermore many people infected with *Helicobacter pylori* did not develop peptic ulceration.

The association of *Helicobacter pylori* with non-ulcer dyspepsia is controversial. Therapeutic trials in non-ulcer dyspepsia patients with *Helicobacter pylori* infection produced conflicting results. Thus, at this stage in the history of acid-peptic disease and its association with *Helicobacter pylori*, the causation or association between the two is still unclear.

In case of non-ulcer dyspepsia this is still more augmented by the conflicting results produced by the workers world-wide. Thus, we at the "Department of Surgery, S V Medical College, Tirupathi" have made a sincere attempt to explore association between *Helicobacter pylori* and ulcer dyspepsia and its contribution to non-ulcer dyspepsia. We have also compared our studies with other studies done previously. A brief outline of the studies compared is given below.

In our study, the overall positivity for *H. pylori* was 156 out of 344 patients (45.30%). In the other studies, Marshall and Warren.³ (1984) study the overall positivity for *H. pylori* was 58 out of 100 patients (58.00%). Von Wulfen et al studies.⁴ The overall positivity for *H. pylori* was 98 out of 180 patients (54.00%). Vaira et al, 1994; Sobala et al, 1991; Patel et al, 1994 studies.⁵ the overall positivity for *H. pylori* was 351 out of 631 patients (55.00%).

So, our study result is slightly lower than the results of the other studies. However, it is comparable to the results of the study by Tytgat GN.⁶ In which overall positivity for *H. pylori* was 46.20% The prevalence of *Helicobacter pylori* is decreasing worldwide, probably due to improved hygiene, increased awareness regarding *H. pylori* and increase in consumption of anti-microbials.

In our study, the prevalence of *H. pylori* is higher in patients with ulcer dyspepsia (80.00%) when compared to patients with non-ulcer dyspepsia (43.00%). Marshall and Warren.³ (1984) study. The prevalence of *H. pylori* is higher in patients with ulcer dyspepsia

(88.50%) when compared to patients with non-ulcer dyspepsia (54.20%). Von Wulfen et al studies.⁴ The prevalence of *H. pylori* is higher in patients with ulcer dyspepsia (80.50%) when compared to patients with non-ulcer dyspepsia (62.20%). Vaira et al, 1994; Sobala et al, 1991; Patel et al, 1994 studies.⁵

The prevalence of *H. pylori* is higher in patients with ulcer dyspepsia (89.30%) when compared to patients with non-ulcer dyspepsia (57.60%). Based on above studies, the prevalence of *H. pylori* is higher in patients with ulcer

dyspepsia when compared to patients with non-ulcer dyspepsia. Our present study is comparable to those of the other studies.

In our study, in the duodenal ulcer sub-group, 20 out of 22 patients (88%) showed positivity for *H. pylori*. There was significant association of *Helicobacter pylori* with duodenal ulcers as per the Chi-square test. Marshall and Warren.³ (1984) study in the duodenal ulcer sub-group, 13 out of 13 patients (100%) showed positivity for *H. pylori*. Von Wulfen et al studies.⁴ In the duodenal ulcer sub-group, 45 out of 54 patients (83.30%) showed positivity for *H. pylori* Vaira et al, 1994; Sobala et al, 1991; Patel et al, 1994 studies.⁵ In the duodenal ulcer sub-group, 59 out of 64 patients (92.00%) showed positivity for *H. pylori*. Based on above studies, the prevalence of *H. pylori* is higher in patients with duodenal ulcer. Our present study is comparable to those of the other studies.

In our study, Results of gastric ulcer sub-group indicated that 12 out of 16 patients (75.00%) were infected with *H. pylori*. As per the Chi-square test, this was a significant association between *H. pylori* and gastric ulcer. Marshall and Warren.³ (1984) Study in the gastric ulcer sub-group, 18 out of 22 patients (81.80%) showed positivity for *H. pylori*. Von Wulfen et al studies.⁴ In the gastric ulcer sub-group, 13 out of 18 patients (72.20%) showed positivity for *H. pylori*. Vaira et al, 1994; Sobala et al, 1991; Patel et al, 1994 studies.⁵ In the gastric ulcer sub-group, 25 out of 30 patients (83.00%) showed positivity for *H. pylori*. Based on above studies, the prevalence of *H. pylori* is higher in patients with gastric ulcer. Our present study is comparable to those of the other studies

In our study, we found 7 cases of carcinoma stomach out of which 4 cases (57%), proved to be *H. pylori* positive. This association wasn't significant as per the Chi-square test.

Vaira et al, 1994; Sobala et al, 1991; Patel et al, 1994 studies.⁵ In their study they found 8 cases of carcinoma stomach. out of which 7 cases (87.00%), proved to be *H. pylori* positive. There is significant association between ca.stomach and *H. pylori*. Our present study results not comparable to above study. But This is in accordance with the results of the study by Van Zanten et al⁷ which showed only a moderate epidemiologic evidence of an association between chronic *H. pylori* infection and gastric cancer.

In our study, patients with duodenal ulcer have higher incidence of *Helicobacter pylori* (88%), when compared to patients with gastric ulcer (75.00%), Marshall and Warren.³ (1984) study patients with duodenal ulcer have higher incidence of *Helicobacter pylori* (100%), when compared to patients with gastric ulcer (81.80%), Von Wulfen et al studies.⁴

Patients with duodenal ulcer have higher incidence of *Helicobacter pylori* (83.30%), when compared to patients with gastric ulcer (72.20%), Vaira et al, 1994; Sobala et al, 1991; Patel et al, 1994 studies.⁵ patients with duodenal ulcer have higher incidence of *Helicobacter pylori* (92%), when compared to patients with gastric ulcer (83%), So, our study is similar to other studies in aspect of patients with duodenal ulcer have higher incidence of *Helicobacter pylori*, when

compared to patients with gastric ulcer. But, why Helicobacter pylori which colonizes the gastric antrum is associated more with duodenal ulcers is not clearly explained till now. It may be because of the hyperacidity that usually is seen associated with duodenal ulcers, which offers a favourable environment for the Helicobacter pylori to thrive.

In 156 patients who were positive for Helicobacter pylori only 36 patients developed peptic ulcer disease (23.10%). The remaining 76.90% patients even though harbouring Helicobacter pylori did not have peptic ulcer disease. The development of peptic ulcer may be because of infection with virulent strains of Helicobacter pylori. A vacuolising cytotoxin is more commonly present in Helicobacter pylori isolated from duodenal ulcer patients. This is proposed to be the cause of duodenal ulcer disease. But, till now, no toxin or virulent strains of Helicobacter pylori is proved to be the cause of peptic ulcer disease.

In our study, in non-ulcer dyspepsia group, the patients with gastritis/duodenitis had high incidence of H. pylori positivity (43.00%) when compared to patients with normal upper G.I endoscopy. Marshall and Warren.³ (1984) study Marshall and Warren (1984) were the first to describe the relationship of H. pylori to gastritis. In non-ulcer dyspepsia group, the patients with gastritis/duodenitis had high incidence of H. pylori positivity (54.20%) when compared to patients with normal upper G.I. endoscopy (50.00%) Von Wulfen et al studies.⁴

In non-ulcer dyspepsia group, the patients with gastritis/duodenitis had high incidence of H. pylori positivity (62.20%) when compared to patients with normal upper G.I. endoscopy (31.50%). Vaira et al, 1994; Sobala et al, 1991; Patel et al, 1994 studies.⁵

In non-ulcer dyspepsia group, the patients with gastritis/duodenitis had high incidence of H. pylori positivity (57.60%) when compared to patients with normal upper G.I endoscopy (43.50%) This group of patients in our study had similar results compared to above studies. But no significant association between H. pylori and gastritis/ duodenitis as per the chi-square test.

In our study, the rapid urease test had a sensitivity of 97.10% and specificity of 94.80% when compared with histopathology. This is comparable with the results of the study done by Tokunaga et al⁸ All our observations in the present study are comparable to other studies except for the overall prevalence of Helicobacter pylori and, the percentage of gastritis/duodenitis patients with H. pylori positivity which was less when compared to the other studies.

- Less number of ulcerative dyspepsia cases in the sample limits the generalization of result.
- Because of invasiveness of the procedure, some people not given consent.
- No similar studies in our region for better comparison of results.

Suggestions for Further Research

- This is observational study to determine prevalence of H. pylori.

- But further intervention studies can be done with anti-H. pylori treatment and follow up.

ENDOSCOPIC FINDINGS	MARSHALL & WARREN (1984)		VON WULFEN et al (1986)		VAIRA et al, 1994; SOBALA et al, 1991; PATEL et al, 1994)		PRESENT STUDY	
	TOTAL PTS.	H.pylori +ve (%)	TOTAL PTS.	H.pylori +ve(%)	TOTAL PTS.	H.pylori +ve(%)	TOTAL PTS.	H.pylori +ve(%)
NORMAL STUDY	16	8 (50)	130	41 (31.5)	319	139 (43.5)	103	35 (33.90)
GASTRITIS/ DUODENITIS	59	32(54.2)	127	79 (62.2)	210	121(57.6)	196	85 (43.00)
DUODENAL ULCER	13	13 (100)	54	45 (83.3)	64	59 (92)	22	20(88)
GASTRIC ULCER	22	18 (81.8)	18	13 (72.2)	30	25 (83)	16	12(75.00)
CA STOMACH	-	-	-	-	08	7(87)	7	04(57.00)
TOTAL	100	58 (58)	180	98 (54)	631	351 (55)	344	156(45.30)

Table 9. Comparison of Present Study with other Studies. Study Limitations

CONCLUSION

This was a prospective study conducted to determine the role of Helicobacter pylori in acid-peptic diseases. This study design was based on clinical study and endoscopic biopsy of gastric mucosa (and duodenal mucosa whenever necessary) in 344 patients with a history of dyspepsia. Endoscopy confirmed the diagnosis. Rapid urease test and Giemsa staining were conducted on endoscopy biopsy specimens and Helicobacter pylori positivity was based on either Rapid urease test and/or histopathological examination was positive. From the present study, it is evident that-

- There was no specific symptom attributable to H. pylori infection.
- Helicobacter pylori infection is more common in males than females.
- Helicobacter pylori is consistently associated with peptic ulcer disease than non-ulcer dyspepsia, which is in broad agreement with the studies done earlier.
- Thus, we conclude that, Helicobacter pylori infection may have a role in the aetiopathogenesis of peptic ulcer disease.

There appears to be no significant association between Helicobacter pylori infection and dyspeptic cases with normal endoscopy. This finding does not exclude the possibility that a small undefined subset of infected individuals will have symptoms induced by the infection, but only large randomized trials will be able to establish this.

Hence, we recommend eradication of the bacteria only in patients who are positive for the bacterium, who have peptic ulceration. We believe in, Peter C Robin’s dictum: “If

a person with peptic ulcer disease is shown to have Helicobacter pylori, then eradication is indicated”.

SUMMARY

In this prospective study conducted in s v medical college to find the prevalence of Helicobacter pylori in dyspeptic patients undergoing upper G.I. endoscopy, the overall positivity for Helicobacter pylori was 45.30%. In ulcer dyspepsia group, 80.00% of the patients were positive for Helicobacter pylori. 88.00% of patients with duodenal ulcers and 75.00% of patients with gastric ulcers were positive for Helicobacter pylori.

In non-ulcer dyspepsia, 40.10% of the patients, were positive for Helicobacter pylori, out of which about 33.70% had normal endoscopic findings and 43.10% patients showed features of gastritis/duodenitis, From the present study it is evident that:

- Helicobacter pylori is significantly associated with peptic ulcer disease than non- ulcer dyspepsia.
- In patients who were positive for Helicobacter pylori, only a small subset of patients had ulcer dyspepsia (23.70%). This could be because the patients with ulcer dyspepsia may be infected with virulent strains of Helicobacter pylori. But till now no virulent factors have proven responsible for ulcer dyspepsia. Thus further evaluation is required to discover diagnostic tests for virulent strains of H. pylori, so that treatment can be directed towards them only.

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