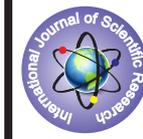


Spectrum of Upper Gastro Intestinal Lesions in Dyspeptic Patients and their Association with Helicobacter pylori Infection in Western Part of Tamilnadu, India.



Pathology

KEYWORDS: Dyspepsia, Endoscopy, H.Pylori, Pangastritis.

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ABSTRACT

AIM: To analyse the spectrum of various upper gastrointestinal lesions and their association with H.pylori in patients with complaints of dyspepsia. **MATERIALS & METHODS:** The study was conducted at a tertiary care centre, in Salem district, Western part of Tamilnadu, South India, included 2136 patients over a period of three years. Endoscopic gastric mucosal biopsies were taken and stained with Giemsa stain to identify H.pylori infection. **RESULTS:** The most common upper GI lesion encountered in endoscopy was Pan gastritis (51%). Overall prevalence of H.pylori was 63%, and it was significantly associated with 84% of Duodenal ulcer, 71% of Bulbar duodenitis and 70% of Pangastritis. **CONCLUSION:** Prevalence of H.pylori is high in this region. Early upper GI endoscopy is mandatory in all dyspeptic patients and they should be tested for H.pylori infection so that prompt treatment can be started to reduce the incidence of various H.pylori induced upper GI diseases.

INTRODUCTION : Dyspepsia is the most commonly encountered presenting symptom for various Upper Gastrointestinal disorders¹. Endoscopy is considered to be an ideal and useful investigation to diagnose various upper GI lesions. Helicobacter pylori, a Gram negative, microaerophilic and spiral shaped bacterial infection is implicated in the pathogenesis of Chronic gastritis, Peptic ulcer disease, Gastric adeno carcinoma, Gastric Maltoma and Non ulcer Dyspepsia. H.pylori infection is approximately 50% of world's population². H.pylori is highly prevalent in developing countries³. Diagnosis of H.pylori could be done by non invasive tests like antibody detection in serum/stool, urea breath test or invasive tests like endoscopic biopsy, Rapid urease test and PCR⁴. In the present study, an attempt has been made to analyse various upper GI Endoscopy findings and their association with H.pylori in patients presenting with complaints of dyspepsia. Although many studies have been already conducted on this topic, still there is lack of knowledge about the prevalence of H.pylori and its association with various upper gastro intestinal disorders in this part of our country.

AIM: This study was conducted to analyse the spectrum of Upper Gastrointestinal lesions in dyspeptic patients and their association with H.pylori infection in the District of Salem, the Western part of Tamilnadu, India.

MATERIALS AND METHODS: The present study was conducted in a tertiary referral hospital, located in Salem District, Western part of Tamilnadu, India over a period of 3 years from January 2014 to December 2016. During this study period, upper GI Endoscopy was performed after getting Informed consent from the patients who came with complaints of dyspepsia for more than 3 months duration. The various symptoms of dyspepsia were, epigastric pain, heartburn, abdominal fullness, bloating, belching, early satiety, dysphagia, nausea, vomiting, etc. The age of the patients ranged from 7 years to 87 years. Upper GI endoscopy was performed using Olympus CV 190 Gastroscope and gastric mucosal biopsies were taken from 4 sites, 2 each from antrum and corpus in addition to the abnormal areas. The biopsies were fixed in 10% formalin, processed and embedded in paraffin wax. 4 micron tissue sections were cut and stained with routine Haematoxylin and Eosin and Giemsa stain for H.pylori. Histopathological examination was done using Olympus 21i Binocular microscope and grading was done for neutrophilic infiltration (activity), lymphoid aggregates, glandular atrophy, intestinal metaplasia and density of H.pylori according to visual analog of Updated Sydney grading system⁵.

OBSERVATION AND RESULTS: Patients with H/O Proton Pump Inhibitors, antibiotics intake within one month, H/O Non Steroidal Anti Inflammatory Drugs, anticoagulants and patients with upper GI bleed were excluded from our study. Patients with Cricopharyngeal, Esophageal and Periampullary carcinomas were also not included in this study.

After exclusion, 2136 patients were selected for our study of which 1336 were males and 800 were females. The age group varied from 7 to 87 years. The most common endoscopic lesion identified was Pan gastritis (51%) followed by Antral gastritis with or without Corporal gastritis (22%), Bulbar duodenitis (11%), Duodenal ulcer (3%), Non neoplastic polyps (3%), Gastro Esophageal Reflux Disease (GERD) with Hiatus hernia (2%), Gastric adeno carcinoma (2%), Gastric ulcer (1%), Congestive gastropathy (5%), Barrets esophagus (0.2%) and Achalasia cardia (0.05%). The H.pylori was present in 84% of duodenal ulcer patients, 70% of pangastritis patients, 71% of Pan gastritis with Bulbar duodenitis patients, 65% of Gastric ulcer patients, 66% of Non neoplastic Gastric polyps, 60% of Gastric adeno carcinoma, 54% of Antral gastritis with or without corporal gastritis, 35% of GERD with Hiatus Hernia and 11% of patients with Congestive gastropathy. One case of Achalasia cardia was associated with H.pylori (100%). None of the 5 cases of Barrets esophagus were associated with H.pylori [Table 1].

The overall H.pylori prevalence was 63%, with 69% in males and 54% in females. The male:female ratio was 1.3:1. The most common age group affected was 41-50 yrs with a mean age of 41.9 years. Among children of 0-10 years, 77% (10 out of 13 cases) were affected [Table 2].

Spectrum of Endoscopic lesions and their association with H.Pylori (Table:1)

Endoscopically diagnosed Lesions	H.Pylori (+)		H.Pylori (-)		Total	
	No of cases	%	No of cases	%	No of cases	%
Pan gastritis	767	70%	331	30%	1098	51%
Pan gastritis with Bulbar duodenitis	159	71%	66	29%	225	11%
Duodenal ulcer	56	84%	11	16%	67	3%
Gastric ulcer	15	65%	8	35%	23	1%
Antral with or without Corporal gastritis	256	54%	221	46%	477	22%
Congestive gastropathy	10	11%	94	89%	104	5%
GERD with Hiatus Hernia	10	35%	29	65%	39	2%
Achalasia cardia	1	100%	0	0%	1	0.05%
Gastric adeno carcinoma	21	60%	14	40%	35	2%
Non neoplastic polyps	41	66%	21	44%	62	3%
Barrets esophagitis	0	0%	5	100%	5	0.20%
Total	1336	63%	800	37%	2136	100%

Prevalence of H.Pylori among different Age and Sex groups(Table:2)

Age group in years	H.Pylori (+)		H.Pylori (-)		Total no of patients
	No of patients	%	No of patients	%	
0 to 10 yrs	10	77%	3	23%	13
11 to 20 yrs	36	31%	80	69%	116
21 to 30 yrs	239	62%	144	38%	383
31 to 40 yrs	319	58%	229	42%	548
41 to 50 yrs	366	85%	63	15%	429
51 to 60 yrs	223	63%	131	27%	354
61 to 70 yrs	104	50%	103	50%	207
>71yrs	39	45%	47	55%	86
TOTAL	1336	63%	800	37%	2136

Endoscopic Upper GI lesions and Giemsa stain for H.Pylori(Figure:1)

DISCUSSION: The commonest upper GI lesion identified by the endoscopy was Pan gastritis (51%) followed by Antral and or Corporal gastritis and Bulbar duodenitis. Duodenal ulcer(3%) was more commonly encountered than gastric ulcer(1%).GERD with Hiatus Hernia and Gastric adeno carcinoma had the prevalence of 2% each. Congestive gastropathy was identified in 5% of the patients.The least commonly encountered lesions were the Barttets esophagus and Achalasia cardia with the prevalence of 0.2% and 0.05% respectively. A study undertaken in northern part of Tamilnadu also had the similar prevalence of 4% Duodenal ulcer, 2% Gastric adenocarcinoma and 14% Duodenitis. In this study also, Gastritis was the most commonly encountered upper GI lesion⁶.

H.pylori infection starts as acute gastritis that is rapidly followed by Chronic gastritis which progresses to atrophic gastritis and Intestinal metaplasia and eventually Gastric adeno carcinoma over a period of decades. Atrophy may be due to the inflammation and apoptosis caused by H.pyori infection. Duodenitis in the gastric metaplasia of the duodenum, hypergastrinemia and impaired bicarbonate secretion in the proximal duodenal mucosa are believed to be the etiological factors for H.pyori. Low grade B-cell lymphoma of mucosa associated lymphoid tissue (MALTOMA) develops due to H.pyori infection^{7,8}. Thus the diagnosis of H.pyori holds a very important part in the treatment strategy of these various Upper GI disorders⁹. Apart from this, a recent study from China states that H.pyori infection could be an indicator for prognosis of gastric carcinoma patients¹⁰. In the current study, the overall prevalence of H.pyori was 63% which is similar to Siddiqui ST et al and Roshana Shrestha et al^{11,12}. The increased prevalence in males (67%) and the most common infected age group of 41-50 years is similar to the study of Vedamanickam.R. et al⁶. In the current study,the most common lesion identified in endoscopy was Pangastritis (51%) which was statistically significant with the presence of H.pyori suggesting that endoscopic appearance could be a sensitive indicator of H.pyori infection¹³. In our study, the prevalence of H.pyori was 65% among the Gastric ulcer patients but, it was 70% in the study of Cortran et al¹⁴. In this study, the prevalence of H.pyori in Duodenitis was 71%, in Duodenal ulcer 84%, in Gastric adeno carcinoma 60%, which was similar to the study done by Roshana Shrestha et al¹². In our study,

the prevalence of H.pyori among children of 0-10 years is 77% which is comparable to Das et al, 2007¹⁵.

CONCLUSION: The prevalence of H.pyori is high in this region of Tamilnadu, India. Since H.pyori is the commonest cause for Gastritis, Duodenitis and precursor for Gastric adenocarcinoma and Maltoma, it is mandatory to detect it early. Hence all patients with symptoms of dyspepsia should be subjected to early upper GI endoscopy and tested for the presence of H.pyori infection so that appropriate H.pyori eradication treatment can be started thereby reducing the incidence of various H.pyori induced upper GI diseases.

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