

Original Article

ROLE OF H. PYLORI ERADICATION THERAPY IN ALLEVIATION OF SYMPTOMS IN H. PYLORI POSITIVE NON-ULCER DYSPEPSIA PATIENTS

Zaheer Iqbal, Dur Muhammad Khan and Muhammad Ashfaq

Abstract: To establish the role of anti H. pylori eradication therapy in alleviation of symptoms in H. pylori positive non-ulcer dyspepsia (NUD) patients.

Material & Methods: This clinical trial was carried out in the Medical unit II and Medical Special unit of the Services Hospital, Lahore during the period from 2003 to 2004. 100 patients with the symptoms of dyspepsia without having evidence of peptic ulcer on upper GI endoscopy were included in the study. Out of these 100 patients 33 were found H. pylori negative on first endoscopy & histopathology, whereas, the remaining number of 67 was completed by confirmation of H. pylori eradication in initially positive cases. Post treatment six weeks follow up was performed to confirm outcome.

Results: The H. pylori eradication therapy did not show statistically significant improvement in symptoms of NUD patients.

Conclusion: Routine H. pylori eradication has little role in the alleviation of symptoms in patients with NUD.

Keywords: Non-ulcer dyspepsia, H. pylori, Upper G.I endoscopy

Introduction

Non ulcer dyspepsia (NUD) is one of the most common problems encountered in primary care practice. NUD is about twice as common as ulcer peptic disease. Recurrent abdominal pain or discomfort, early satiety, bloating and postprandial fullness are characteristic features. Absence of other organic diseases like GERD, biliary tract disease and peptic ulcer are essentials of the diagnosis. The underlying patho-physiology of non ulcer dyspepsia is not fully understood.¹ Probable mechanisms include gastroduodenal hypersensitivity, delayed gastric emptying and antral hypomotility, gastric dysrhythmias, impaired proximal gastric accommodation and small intestinal dysmotility.²

The role of *Helicobacter pylori* (H. pylori) in patients with non ulcer dyspepsia (NUD), the relationship of the virulence of the organism to the occurrence and severity of NUD and the need for eradication of H. pylori in alleviating symptoms of NUD remain controversial.³ There is considerable debate about whether H. pylori infection is important in causing NUD. Many studies assessing this relationship have been performed in selected patient populations.⁴ It seems that gastric juice does not play a role in the genesis of NUD.⁵ Although H. pylori infection has been recognized as a major etiological agent for the development of chronic active gastritis, duodenal ulcer and benign non-NSAID related GU, its role in the development of

symptoms in patients with dyspepsia remains uncertain. Results from population based epidemiological studies have been conflicting regarding a causal link between H. pylori infection and NUD.⁶ According to Joshi et al NUD is being postulated as one of the gastroduodenal manifestation of H. pylori infection. H. pylori infection may result in clinical symptoms as well as histological changes in NUD.⁷ As concluded in a study conducted by Veldhuyzen et al there is need to clarify the role of H. pylori in this disorder. Therefore, there is no evidence of a causal relation between H. pylori and NUD.⁸

The annual prevalence of dyspepsia in the USA and western countries is approximately 25% and it may account for up to 5% of visits to primary care providers.⁹ Prevalence of H. pylori infection was found in 43% to 87% of subjects with NUD in different studies done in the west.¹⁰ In a study done by Schlemper et al, H. pylori positivity was reported to be 80% in NUD and 68% in all other non-ulcer subjects.¹¹

Material and Methods

Patients presenting with the features of NUD were enlisted. Presenting symptoms were recorded on the proforma. Patients aged more than 15 years, having no organic pathology to explain dyspepsia and with normal endoscopy (no ulcer), were included. Biopsy from the pre-pyloric region of the stomach was taken using biopsy forceps and the sample was preserved in

formalin and sent for detection of H. pylori. All patients were given anti H. pylori treatment (Clarithromycin 500 mg twice daily and Amoxicillin 1 gm twice daily for 7 days and Omeprazole 20 mg twice daily for 4 weeks). The initial biopsy report determined 33 cases as negative which were labelled as control group. A repeat gastroscopy and biopsy after completion of treatment was done on patients who were H. pylori positive to confirm eradication and cases not confirming eradication were excluded from the study. A total of 67 such cases were enrolled to complete a total number of 100. Outcome was judged by improvement or disappearance of symptoms in the follow-up for six weeks post treatment.

Data analysis was computer based. Data was entered in SPSS version 10.0. Outcome was compared by the Chi square test. Frequency tables of variables included in proforma were also made.

Results

The study was conducted on 100 patients who fulfilled the inclusion criteria. They ranged from 20 to 60 years of age. The highest number of patients was between 20-30 years i.e. 45 (45%) while lowest number of patients was in the age range of more than 50 years, 6 (6%). There were 26 (26%) patients between 31-40 years and 23 (23%) patients were between 41-50 years. Mean age of the patients was found to be 34.19±10.7 years.

The percentage of males and females was 41% and 59% respectively. The figures show that among younger age group female were much more predominant in number 31% in 3rd decade and 16% in 4th decade, whereas in older age group males were more in number as compared to their counterparts 13% in 5th decade and 4% in 6th decade and above (Table1).

The most common recorded symptom was pain/discomfort epigastrium (67%). Post prandial

fullness (64%), bloating (58%), belching (56%) were also very commonly reported. The least common complaint was vomiting (5%), whereas, nausea was reported in 38% of the patients (Table 2).

Among the 100 patients, 67 (67%) were found to be H. pylori positive (infected) on gastroscopic biopsy and histopathology, while 33(33%) were H. pylori negative (not infected).

Among the 67 H. pylori positive patients, 23 (34.33%) responded to treatment with improvement in symptoms, whereas, 44 (65.67%) patients did not show improvement, likewise in the other group i.e. H. pylori negative 33 patients only 10 (30.31%) were cured, while 23 (69.69%) had no improvement in symptoms after treatment. The Chi square value was 0.03, df = 1 and P = > 0.8599 (statistically non-significant) (Table 3).

Table-2: Distribution of symptoms

| Symptoms | Numbers | Percentage |
|-----------------------------|---------|------------|
| Burning epigastrium | 36 | 36.0% |
| Pain/discomfort epigastrium | 67 | 67.0% |
| Belching | 56 | 56.0% |
| Nausea | 38 | 38.0% |
| Vomiting | 05 | 05.0% |
| Bloating | 58 | 58.0% |
| Postprandial fullness | 64 | 64.0% |

Table-3: Cross table of H. Pylori infection & symptomatic relief secondary to eradication therapy

| | H. Pylori Positive | H. Pylori Negative | Total |
|-------------------|--------------------|--------------------|-------|
| Symptoms relieved | 23 | 10 | 33 |
| Not relieved | 44 | 23 | 67 |
| Total | 67 | 33 | 100 |

Chi Square=0.03 p=0.8599

Table-1: Age wise distribution of males and females included in the study

| Age / Years | Male | | Female | |
|-----------------|-----------|------------|------------|------------|
| | Number | Percentage | Number | Percentage |
| 20 - 30 | 14 | 34.1% | 31 | 52.5% |
| 31 - 40 | 10 | 24.4% | 16 | 27.1% |
| 41 - 50 | 13 | 31.7% | 10 | 16.9% |
| > 50 | 04 | 09.8% | 02 | 03.5% |
| Total | 41 | 100.0% | 59 | 100.0% |
| Mean±SD (years) | 37.0±11.4 | | 32.24±9.76 | |

Discussion

In our study the *H. pylori* positive cases were 67% which has the same trend as reported in the available literature although it is a little on the lower side as expected in the developing countries, where a higher rate is reported. The possible explanation being frequent use of antibiotics prescribed by general practitioners and even self medication by the patient for different ailments which might have led to eradication of infection among a reasonable number. Moreover, the overwhelming majority of our study subjects were of younger age group, who are reported to have relatively lower infection rate.

Our study reveals that overwhelming number of patients recorded belonged to the younger age group, 45% in 3rd decade and 26% in the 4th decade, whereas the patients registered for age 50 and above are only 6%. The literature also reports higher rate of NUD in younger age groups in contrast to *H. pylori* infection, which is much higher in older age group.

Sex distribution indicates a significantly higher rate of NUD among females, 59% as compared to 41% among the males in our study.

The effects of *H. pylori* eradication treatment have been determined in different studies and are conflicting in conclusion, majority indicating no statistically significant benefit.

Moayyedi and Axon concluded that patients with dyspepsia and normal endoscopy gain a modest benefit from *H. pylori* eradication therapy. It states that *H. pylori* eradication is of small but significant benefit for dyspepsia symptoms of patients with NUD.¹²

Burley et al state the mean placebo response rate at one year was 28% (range 7-51%) and the mean *H.*

pylori eradication treatment response rate was 36% (range 21-58%).^{13,14}

Blum et al denote there is no significant overall effect of treatment on quality of life compared with placebo.^{13,14}

Mc Cobi et al do not support the use of *H. pylori* eradication therapy in NUD. A non-significant trend toward a small benefit with *H. pylori* therapy was the outcome of the study.¹⁵

In our study two groups of NUD patients were separated, i.e. *H. pylori* positive (67%) and *H. pylori* negative (33%). The effects of identical treatment on the two groups were recorded and processed. Among the *H. pylori* positive patients, 23 out of 67 (34.3%) benefitted as compared to 10 out of 33 (30.33%) in *H. pylori* negative group. The Chi Square value (Yates corrected) was calculated to be 0.03 (df 1) with p value of 0.8599 indicating the effect of eradication treatment to be non-significant.

Conclusion

In accordance with the existing updated literature, this study concludes that a causal relationship between NUD and *H. pylori* infection is not established. Therefore, little support is provided for the routine *H. pylori* eradication in the symptomatic treatment of patients with NUD. Further evaluation of the etiology of NUD and new therapeutic interventions are needed for appropriate management.

*Medical Special Unit
Services Hospital, Lahore*

theesculapio@hotmail.com

www.sims.edu.pk/esculapio.html

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Answer Picture Quiz

The lesion in the tip of her nose was suspect for a carcinoma of the skin. A punch biopsy was performed under local anesthesia. The pathology revealed infiltrative basal cell carcinoma. She was referred to plastic surgery to definitive excision of neoplastic tissue.