

# H2 RECEPTOR ANTAGONIST OR H. PYLORI ERADICATION?

Pages with reference to book, From 81 To 82

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## ABSTRACT

To assess the healing and relapse rate of duodenal ulcer (DU) treated with H2 receptor antagonists in helicobacter pylori (HP) positive vs negative cases, we analysed 95 cases of endoscopically proven duodenal ulcer. H. pylori colonization was found in 73 (77%) patients before treatment. No difference was observed in the pre-treatment characteristics between patients with HP positive and HP negative duodenal ulcers. Healing rates with H2 receptor antagonist at 8 weeks were 90% and 91% respectively (NS). No difference in HP colonization was found between patients with and without healed ulcer, 77% and 78% respectively. Relapse rate within 1 year was 50% in patients with HP positive vs 73% with HP negative cases. We conclude that duodenal ulcer healing and relapse rate is related to acid inhibition rather than HP colonization (JPMA42: 81, 1992).

## INTRODUCTION

Since the isolation of HP from the gastric mucosa by Marshall in 1982, it has been considered as an important cause of peptic ulcer disease<sup>1</sup>. The organism was seen in 87% of patients with gastric or duodenal ulcer and in 90% patients with gastritis<sup>2</sup>. High intragastric acidity and serum gastrin were found in the infected person, which again supports the infective theory of DU<sup>3</sup>. With this aetiology, the strategy of the DII therapy is likely to change from acid-inhibition to antimicrobials such as antibiotics and bismuth compound. However, it is still controversial whether HP is a commensal in the gastrointestinal tract or a pathogen for the development of duodenal ulcer<sup>4,5</sup>. Moreover, acid inhibitors such as H2 receptor antagonists are still effective for the acceleration of duodenal ulcer healing without having any potential to inhibit HP colonisation<sup>6</sup>. This study was done to see the influence of HR on the healing and relapse rate of DII treated with H2 receptor antagonists.

## PATIENTS AND METHODS

Endoscopically diagnosed cases of duodenal ulcer of at least 3 mm in diameter with an ulcer crater, were included in the study. Cases with systemic disease, major complications of ulcer and operated cases except for simple closure were excluded. All the cases were treated with one of the H2 receptor antagonists (cimetidine 800 mg, famotidine 40mg or ranitidine 300 mg) in noctedose. The treatment was discontinued if the ulcer healed by the 4th week; otherwise continued for further 4 weeks. Patients with unhealed ulcer by 8 weeks were assigned to other treatment and excluded from the follow-up study. Healing of the ulcer was defined as complete disappearance of the ulcer crater, with scar formation. Patients with healed ulcer were followed endoscopically at 3, 6 and 12 months to see ulcer recurrence. Endoscopies were performed before starting the treatment and at each follow-up session. Local anaesthesia with 4% xylocaine gargle was given before each procedure. Three mucosal biopsy specimens were obtained from the antrum within 5cm from the pylorus. Two specimens were fixed in

buffered formalin for histology and one was subjected to CLO test (Delta West limited). The endoscope was cleaned with soap and water, then immersed in 2% glutaraldehyde solution for two minutes after every procedure. The biopsy forceps and biopsy channel were irrigated with soap and water, then sterile water and finally with 70% alcohol at the end of procedure. Specimen fixed in buffered formalin were embedded in paraffin wax, cut into 5 um sections and stained with haematoxylin and eosin. The slides were reviewed for HP by a pathologist in random sequence without any clinical information. Samples with either positive CLO test/histology or both were considered to have HP colonization. Gastritis was waded as mild, moderate and severe according to the polymorphonuclear cell and mononuclear cell infiltration<sup>7</sup>. The statistical analysis was done using chi square test and student 't' test.

## RESULTS

Ninety-five cases with endoscopically proven DII were included in the study. Helicobacter pylori was found in 73 (77%) patients. There was no significant difference in age, sex, addictions, NSAID use, blood groups and grades of gastritis between patients with and without HP colonisation (Table I).

**TABLE I. Demographic parameter of patients.**

	HP-positive DU	HP-negative DU
<b>Total No. of cases</b>	<b>73</b>	<b>22</b>
<b>Age (yrs.)</b>	<b>39 ± 13</b>	<b>46 ± 16</b>
<b>Sex (male/female)</b>	<b>62/11</b>	<b>20/2</b>
<b>Duration of symptoms (months)</b>	<b>64 ± 76</b>	<b>59 ± 67</b>
<b>Cigarette smoker</b>	<b>30</b>	<b>9</b>
<b>Tobacco chewer</b>	<b>9</b>	<b>3</b>
<b>Tobacco chewer and smoker</b>	<b>5</b>	<b>5</b>
<b>NSAID use</b>	<b>7</b>	<b>1</b>
<b>Blood group O</b>	<b>21</b>	<b>6</b>
<b>Gastritis Mild</b>	<b>0</b>	<b>3</b>
<b>Moderate</b>	<b>21</b>	<b>6</b>
<b>Severe</b>	<b>37</b>	<b>5</b>
<b>Not known</b>	<b>15</b>	<b>8</b>
<b>Treatment</b>		
<b>Cimetidine</b>	<b>27</b>	<b>8</b>
<b>Famotidine</b>	<b>23</b>	<b>8</b>
<b>Ranitidine</b>	<b>23</b>	<b>6</b>

Out of 95 patients treated with H2 receptor antagonists, ulcer healed in 67 (71%) at 4 weeks and in 86

(9 1%) at 8 weeks. Of the 73 cases with HP-positive, 50 (68%) healed at 4 weeks and 66 (90%) at 8 weeks. Similarly of the 22 cases without HP, 17 (77%) healed at 4 weeks and 20 (91%) at 8 weeks, without any significant difference between patients with or without HP-colonization. Sixty-six (77%) out of 86 patients with healed and 7(78%) Out of 9 with unhealed ulcers had HP colonization (N.S.). Seventeen patients were lost to follow-up, 71 patients with healed ulcer received regular endoscopic follow-up and 39 (55%) of these relapsed within one year. Relapse rates of patients with and without HP colonization are shown in Table II.

**TABLE II. Comparison of relapse rates in HP-positive and negative cases with duration of follow-up.**

	HP-positive (56)	HP-negative (15)
3 months	12 (21%)	5 (33%)
6 months	17 (30%)	7 (47%)
1 year	28 (50%)	11 (73%)

## DISCUSSION

The relationship between helicobacter pylori and chronic duodenal ulcer disease is currently an area of intense interest. The reported prevalence of antral HP in patients with active duodenal ulceration ranged from 70 - 100%<sup>8,9</sup>. The reasons for variation are ethnic differences or low sensitivity of diagnostic tests due to focal HP colonization of antral mucosain some patients<sup>10</sup>. We took three specimens of antral mucosa from different locations for histology and CLO test, the frequency of antral HP colonization in our patients was 77%, which is higher than 70% reported from Taiwan<sup>10</sup>. It could be due to ethnic difference and younger age group of our patients. This study showed that the presence of HP in the antrum did not change the healing rate. Although the healing rate was higher (77%) in HP negative as compared to the HP positive group (68%) at 4 weeks but the difference was not statistically significant. Healing rates at 8 weeks were also similar in both groups. HP colonization amongst the patients with healed (77%) and unhealed duodenal ulcer (78%) were similar, thereby suggesting that the healing process takes place despite the presence of bacteria and acid inhibition still plays an important role in the treatment of active duodenal ulcer. It has been reported earlier that the clearance and eradication of HP gives a longer remission period in duodenal ulcer patients treated with colloidal bismuth compounds with or without antibiotics<sup>11,12</sup>. In the present study we could not find any longer remission in patients who were HP negative vs those who were HP positive. These findings are similar to earlier reports<sup>13,14</sup>. Although some good prospective studies have shown better healing rates of duodenal ulcer comparable to the results with H2 receptor antagonists and for better remission after tripple regimen therapy (colloidal bismuth subsitrate for 4 weeks plus metronidazole and amoxycillin for 2 weeks)<sup>11,15</sup>. but we will have to weigh out the benefits and potential side effects and tolerability of the patients<sup>15</sup>. H2 receptor antagonists should probably be the first line of treatment, which can promote ulcer healing without significant difference in ulcer recurrence irrespective of the HP status and HP eradication should be attempted in resistant ulcers, recurrent ulcers and in young persons for whom long term treatment with H2 receptor antagonists or surgery is not desirable.

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