The prevalence of Helicobacter pylori in erosive antral gastritis

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ABSTRACT

OBJECTIVES
The main objective of this study was to determine the prevalence of H. pylori infection in erosive antral gastritis.

METHODS
The study was conducted at Birendra Army hospital from 2063 Bhadra to 2064 Ashad. Total of 80 symptomatic patients with endoscopically erosive antral gastritis irrespective of age and sex were taken as a study group. Histological examinations of H pylori were done on all patients. Results: H. pylori prevalence in erosive antral gastritis was 55%. Males 27 (61.4%) were more affected than females 17 (38.6%).

CONCLUSION
As the prevalence of H. pylori in erosive antral gastritis was 55%, so it is obvious that a blank therapy for H. pylori eradication with RUT can’t be recommended in patients with erosive antral gastritis

INTRODUCTION
Gastritis is simply defined as inflammation of gastric mucosa. Acute gastritis is a term covering a broad spectrum of entities that induce inflammatory changes in the gastric mucosa. Acute gastritis can be broken down into 2 categories: erosive (eg, superficial erosions, deep erosions, hemorrhagic erosions) and nonerosive. Helicobacter pylori is a well recognized etiologic agent of gastritis and its association was established first in 1983 by two Australians Barry Marshal and Robin Warren who cultured the organism from gastric biopsy specimen taken from symptomatic patient. Sviuntsits’kyi AS et al had done a study where H. pylori are found with higher frequency in the antral segment of the stomach, the mucous membrane exhibiting a higher degree of infectious lesion. Kolarski V et al did a study with endoscopically proved chronic erosive gastritis (52 patients), and found the presence of Helicobacter pylori was found in 73.07%. They concluded that one of the important pathogenetic factors of erosive gastritis, duodenitis and gastroduodenitis is the Helicobacter pylori infection of gastroduodenal mucosa. Balzano A et al found H pylori positivity in 50% of the patients with erosive antral gastritis in a randomized controlled study. While involvement of H.pylori in the pathogenesis of Chronic antral gastritis is widely accepted, its role in erosive gastritis remains to be evaluated. This prospective study was undertaken to define the involvement of H. pylori in this disease, as no similar studies have been done in Nepal.

Materials and methods Symptomatic patients with erosive antral gastritis noted during endoscopy were subjected for gastric biopsy. In all patients trained endoscopist at Birendra Army Hospital carried out an upper gastrointestinal endoscopy. Targeted punch biopsy was taken from anterior and posterior wall of...
antrum. Four gastric mucosal biopsies were taken from the suspicious part of the antrum from each patient for the histological examination.

For histological examination, a piece of biopsy tissue was crushed between two sterilized glass slides. Each preparation was air dried and heat fixed, de waxed and made ready for staining. Giemsa stain was done in all biopsy specimens.

Giemsa stain was done as described below:

1. Paraffin embedded sections was routinely de-waxed and taken down to water.
2. Stained with 20% Giemsa solution in distilled water for 5 minutes at room temperature.
3. Blotted dry on filter paper.
4. Quickly dehydrated in one coplin jar of absolute alcohol.
5. Transfered to xylol before any loss of stain had occurred in alcohol
6. Mounted in DPX.

Results: Helicobacter like organism deep blue.

Expert pathologists from Birendra Army Hospital did the histopathological examination of H pylori. A specimen was read as positive if curve bacilli organisms were observed on microscopy. The histological reports were reported within 1 week.

RESULTS

H. pylori prevalence in erosive antral gastritis was 55%.

Age prevalence of H. pylori is high after age of 40 years (68.5% - 75%) in comparison with before age of 40 years. Increasing prevalence of H. pylori with increasing age is significant P value (0.009). Maximum number of H. pylori positive cases were of age 41-60 years with significant P value (0.031).

Males 27 (61.4%) were more affected than females 17 (38.6%).

DISCUSSION

The overall total prevalence of H. pylori infection (55%) in our present study is similar with those of other studies (49% - 70%) done in and outside Nepal. In Nepal, the reported prevalence of H. pylori in various gastro duodenal diseases ranged from 39% to 86.65 as studied by RUT and serological test.

Shah et al reported highest prevalence of 86.6%. S.K Rai et al had done study on H. pylori associated gastro duodenal problem among the Nepalese. They found prevalence of H. pylori 29.5% which were tested by in house rapid urease test and also tested by culture and PCR. Male: Female ratio was 31.2% compared with 24.5% (P value >0.05). Age wise higher incidence (34.4% observed in the age of 36-50 yrs followed by 29% by over 50 yrs and 24.4 % in 21 – 35 yrs (P> 0.05).

The prevalence is higher in our study than the study done by S.K Rai et al because we included the cases with erosive antral gastritis. A study done by Makaju et al showed 33.9% prevalence of H. pylori infection. Low prevalence in their study could be due to low number of biopsy taken in each case. In a study done in Nepal by Shyaka et al in 1998 showed high prevalence rate (80%) of H. pylori infection. This may be due to very poor lifestyle and hygiene among the population.

Table No. 1. Age distribution in H. pylori positive cases

<table>
<thead>
<tr>
<th>HPE</th>
<th>≤ 20 yrs</th>
<th>21-40 yrs</th>
<th>41-60 yrs</th>
<th>&gt;60 yrs</th>
<th>Total</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. pylori positive</td>
<td>1</td>
<td>16</td>
<td>24</td>
<td>3</td>
<td>44</td>
<td>0.009*</td>
</tr>
<tr>
<td>H. pylori negative</td>
<td>9</td>
<td>15</td>
<td>11</td>
<td>1</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>31</td>
<td>35</td>
<td>4</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>p value</td>
<td>0.004*</td>
<td>0.628</td>
<td>0.031*</td>
<td>0.623</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

Table No. 2. sex distribution in H. pylori positive cases

<table>
<thead>
<tr>
<th>Sex</th>
<th>H. pylori positive</th>
<th>H. pylori negative</th>
<th>Total</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>27 (61.4%)</td>
<td>16 (44.4%)</td>
<td>43</td>
<td>0.131</td>
</tr>
<tr>
<td>Female</td>
<td>17 (38.6%)</td>
<td>20 (55.6%)</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44 (100%)</td>
<td>36 (100%)</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>
low number of samples included in their study as compared to our present study. In another study done in Dolpa district of Nepal by Nathalie et al in 1998 reported low prevalence (11.3%) of H. pylori infection by detecting anti H. pylori IgG in saliva.14

This low prevalence in their study could be due to difficulty in transportation of samples from remote areas of Nepal for testing them in Europe. Such reports are not available from Nepal.15 In 1998 Kawasaki et al reported significant regional variation in prevalence in prevalence of H. pylori infection within Nepal.16 In our present study H. pylori infection is more common in age group (40-60). This higher prevalence of H. pylori in erosive antral gastritis was 51-60 years (49.47%) followed by 41-50 years (43.25%). In the same study, males show higher positivity compared to females with a ratio of 1.6:1. The most common affected age group was similar in male and female, which was 51-60 years of age in both sexes.17

**CONCLUSION:**

As the prevalence of H. pylori in erosive antral gastritis was 55%, so it is obvious that a blank therapy for H. pylori eradication with RUT can’t be recommended in patients with erosive antral gastritis. This study concluded that H. pylori infection increases significantly with age.

**REFERENCE:**


