Eradication of Helicobacter pylori infection and metronidazole resistance: different results in different countries

Sir,

We read with interest in your Journal, two papers in published in 1997, both show a dismal eradication of Helicobacter pylori (H. Pylori) infection among Saudi patients, when metronidazole is employed.

Dr Al-Amri obtained Helicobacter pylori eradication in 49% of his patients with a triple therapy based on metronidazole, amoxicillin and bismuth subcitrate colloidal. His conclusion was that probably metronidazole resistance of Helicobacter pylori strains is a problem in Saudi Arabia. This proportion of strains resistant metronidazole is higher than that reported in Europe and Western countries, probably due to a different use of metronidazole. In turn this is apparently linked to a lower prevalence of parasitic infection in Europe and therefore to lower rate of previous metronidazole exposure.

Duodenal ulcer (DU) is a chronic relapsing disease whose recurrences disappear eradicating H. pylori infection. Such approach bears a low cost when compared with long-term management with antisecretory drugs.

New treatments with short-term low dose have been proposed, in order to further reduce cost and improve patients compliance.

We looked for the efficacy of two treatment regimens for the cure of H. pylori infection in Italian patients with history of duodenal ulcer.

One hundred twenty six patients (89 males, mean age 55.7 years) shown infected by Helicobacter pylori were treated with CAO (Clarithromycin 250 mg i.d., Amoxicillin 500 mg q.i.d. and Omeprazole 20 mg b.i.d) or MAO (Metronidazole 250 mg q.i.d., Amoxicillin 500 mg q.i.d. and Omeprazole 20 mg b.i.d) regimens for 10 or 14 days.

After treatment all drugs were discontinued. Diagnosis of H. pylori infection was assessed by histologic stain (Giemsa) on antral and fundic biopsies and serological evidence of raised levels of IgG against the bacterium at 3, 6, 12, 24 months.

In all patients we excluded NSAIDS assumption as cause of duodenal ulcer. Results are summarized in Table 1.

The mean follow-up, after eradication, was 24.2 months. Although we observed a slight superiority for the regimen employing clarithromycin, no statistical difference was demonstrated among the two regimens. Moreover, the 10 or 14 days regimens had similar efficacy.

It appears that metronidazole resistance, in Northern Italy does not prevent cure of Helicobacter pylori infection and play a major role in the cure of cause of duodenal ulcer. Results are summarized in Table 1.

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Table 1 - Summary of response to treatment methods, in all patients.

<table>
<thead>
<tr>
<th>Therapy</th>
<th>CAO1</th>
<th>MAO2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eradication</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>10 days</td>
<td>15/16 (93%)</td>
<td>1/16</td>
</tr>
<tr>
<td>14 days</td>
<td>37/39 (95%)</td>
<td>2/39</td>
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1 CAO - Clarithromycin; 2 MAO - Metronidazole,

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Reply 1 from the author

First of all, I thank the author(s) for showing interest in the data given under the name “Efficacy of Metronidazole-based triple therapy on eradication H. pylori positive peptic ulcers in mainly Saudi patients”.

Firstly, further to my comment under discussion, that Metronidazole resistance was probably the most important reason accounting for low success rate for eradicating H. pylori, we prospectively studied the
pattern of *H. pylori* sensitivity to various antimicrobial agents. Isolates were uniformly highly sensitive to all antimicrobial agents tested by disc diffusion method. However, *H. pylori* isolates showed a high resistance pattern to Metronidazole 64.4%. Furthermore, presence of *H. pylori* resistance isolates was shown to reduce the likelihood of successful eradication. Secondly, the study conducted by the author(s) compared two regimens for 2 different periods, both regimes were highly effective in eradicating *H. pylori*. Similar results have been shown earlier. However, few points worth mentioning (1) regimen as described sound complicated as patient had to take nine tablets per day. (2) Frequency of Metronidazole resistance is not known in the study population and therefore, conclusion of the author(s). “It appears that Metronidazole resistance in Northern Italy does not prevent cure of *H. pylori* infection and play a major role in the cure of patients with this infection” is not justified. Finally, combination of Clarithromycin, Amoxil and Losec sound effective and attractive regimen, however, the combination has to be tested in our population before any conclusion can be withdrawn.

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**Reply 2 from the author**

The Italian group discussed their experience in *H. pylori* eradication therapy using two regimens. It is directed to Dr. Al Amri’s study. Our study reported the prevalence of Metronidazole resistant *H. pylori* strain among Saudis. Therefore, Dr. Al Amri’s response is the only relevant response to their correspondence. However, I have only one comment that they did not do *H. pylori* culture and antibiotic susceptibility.

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**References**


