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**Efficacy of amoxicillin and clarithromycin-based triple therapy  
for *Helicobacter pylori* eradication:  
A 10-year trend in Turin.**

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Dear Editor,

In a recently published paper, Tursi *et al.* have shown that in the period between 1996 and 2006, in Central (Lazio region) and Southern (Puglia region) Italy, with a standard clarithromycin-based triple therapy, there has been a dramatically significant decrease of *Helicobacter pylori* (*H. pylori*) eradication rate (from 90% to 51%, respectively,  $P=0.001$ ).<sup>1</sup>

The Maastricht IV/Florence Consensus Report of the European Helicobacter Study Group have advised that a clarithromycin-based triple therapy should be used as first choice in treating *H. pylori* infection, in relation to clarithromycin resistance rate in each region.<sup>2</sup> Recently, data of a multicentric European study have shown that in Italy the primary rate of *H. pylori* clarithromycin resistance was 26.7%.<sup>3</sup>

In 2002, in a randomized study, we have shown that in Turin, Northern Italy, a triple therapy with clarithromycin, amoxicillin and a proton pump inhibitor (PPI) achieved a eradication rate of 68% for 7 days and 76% for 10 days. To continue further gave no advantages.<sup>4</sup> These values were significantly inferior than those reported 10-year earlier.<sup>5</sup> In a series of subsequent studies, we have not found better results with alternative schedules.<sup>6,7</sup>

In the year 2012 (January, 01-December, 31) we have prospectively evaluated the *H. pylori* eradication rate of consecutive patients never treated for *H. pylori* with a clarithromycin-based triple therapy comprising a standard dose of PPI twice, amoxicillin 1 g twice daily and clarithromycin 500 twice a day. Furthermore, results were compared with a previous prospective study, in the same geographical region, including patients randomly treated with a triple therapy based on a standard dose of PPI, amoxicillin and clarithromycin.<sup>4</sup> Eradication of *H. pylori* infection was assessed by <sup>13</sup>C-UBT, performed according to the supplier's instructions (Helicobacter Test, INFAI®, Bochum, Germany). The reported sensitivity is 97.9% and specificity 98.5%. Two breath collections were obtained at baseline (8 hours of fasting, not PPI nor antibiotics from 30 days) and thirty minutes, respectively, after

drink of 100 mg dose of  $^{13}\text{C}$ -labeled urea with 1.2 g of citric acid in 100 ml of water. Samples were analysed for  $^{13}\text{C}/^{12}\text{C}$  ratio with a mass spectrometer (BreathMAT plus, Finnigan, Bremen, Germany). Results were expressed as excess  $\delta^{13}\text{CO}_2$  excretion per mil, which represents  $^{13}\text{C}$  enrichment over and above the baseline sample: a value  $\geq 4$  delta per mil was considered positive. Statistical analyses and data processing were performed using the software MedCalc version 12.3. Differences in eradication rates were tested with the chi-square test (with Yates' correction for continuity). A  $P$  value  $< 0.05$  was considered significant. The cohort included 182 patients (81 males, mean age 59.6, range 31-79), 99 of them received a regimen including a 1-week triple therapy (group I) and 83 were treated with a 10-day triple therapy (group II). No patients treated for different periods were found. Sixty-nine of them had a previous diagnosis of peptic ulcer disease or gastroduodenal erosions and the remaining of active gastritis. At the end of the course of treatment, the overall *H. pylori* eradication rate was 70.7% (70/99) in group I and 73.4% (61/83) in group II, without significant difference between the 2 regimens. When compared with the prospective study published in the year 2002 no differences were observed for both groups ( $P = 0.87$  and  $P = 0.9$  respectively) (Figure 1).<sup>4</sup> For either duration of therapy, eradication rate remains above 70%; since these results represent the "real world", these are a realistic representation of anti-*H. pylori* treatment in Northwestern Italy.

In conclusion, this study has shown that in our area, a clarithromycin-based treatment regimen for *H. pylori* eradication is equally effective than 10 years ago. Nevertheless, in accordance with Tursi *et al.*,<sup>1</sup> these eradication rates are significantly inferior than those reported 17 years ago.

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