Helicobacter pylori eradication: poor medical compliance from East to West of the World.

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Funding Statement: None to declare.

Disclosure of interest: The authors report no conflicts of interest.

Running title*: Helicobacter pylori* and repetition of the same therapy

word count: 647

Keywords: compliance; eradication; guidelines; *Helicobacter pylori*; repetition; therapy

Dear Sir,

we have read with interest the paper by Li et al, who found that in Shanghai, China, to eradicate *Helicobacter pylori* (*H. pylori*) infection, the clarithromycin-containing regimens were repeatedly used in 178 patients (60.8%) and the levofloxacin-containing regimens were repeated in 88 patients (30.0%). Considering the poor adherence (7.1%) they concluded that in order to increase the success of *H. pylori* eradication therapy, the effect of prior therapies needs to be given more consideration and patient education to enhance adherence also needs to be improved [1].

We completely agree with this conclusion but we would like to add our data regarding medical compliance to Guidelines in the Western World. In our outpatient clinic of Gastroenterology Unit of Molinette-SGAS Hospital, Turin, Northwestern Italy, there is a urea breath test (UBT) service open to all patients sent by generalists as well as by gastroenterologists or specialists in several disciplines. The UBT procedure, described elsewhere [2], is performed by dedicated nurses who carry out about 2000 tests per year.

In this setting, to evaluate the rate of re-prescription of a clarithromycin plus amoxicillin-containing regimen after failure with the same regimen, we selected consecutive patients who did not respond to two anti-*H. pylori* treatments in the period 1 January 2014-1 January 2016. Furthermore, to compare eventual changes over time, the same strategy was retrospectively applied, searching in the database of our outpatient clinic, to a similar population referred in the period 1 January 2004-1 January 2006. To test the statistical significance of the difference between two proportions a chi-squared test was used. The statistical significance level was set to 95%. The statistical analysis was performed by using MedCalc software (version

14.8.1). We found that in the period 2014-2016 the repetition of the same treatment after a failure was done in 99 out of 652 (15.1%) patients *versus* 16 out of 409 (3.9%) patients in the period 2004-2006 (Interval Confidence 95% [IC 95%], difference rate = 7.2% - 15.3%, P < 0.0001). In details, in the recent period, considering 99 repetitions, 78 were prescribed by generalists, 18 by gastroenterologists and 3 by internists. In the period 2004-2006 all repetitions were prescribed by generalists. Analysing the cases of repetition by specialty, the generalists were prescribers in 100% of the cases (in all the same doctor for each repeated prescription) in the period 2004-2006 and in 78.8% in the period 2014-2016 (IC 95%, difference rate = -26% - 69%, P = 0.38). The repetition prevalence among gastroenterologists ranged from 0% in the period 2004-2006 to 18.2% in the period 2014-2016 (IC 95%, difference rate = -2.7% - 39.1%), at the limit of statistical significance (P = 0.088). In the period 2014-2016, 75/78 (96.1%) repetitions were performed by the same generalist for each patient, while 11/18 (61.1%) prescriptions were performed by the same gastroenterologist for each patient. No prescription was repeated by the same internists. All patients reported an optimal compliance (assumption of more than 90% of prescribed drugs).

In conclusion, also in our area there is an increasing trend to repeat the same treatment after a first failure. This is an important issue and could be due to reduced interest and knowledge about *H. pylori* eradication, both at general and specialist level. Nevertheless, it is possible that the lack of a health system informatics network could limit the availability of patients' data inducing errors as the repetition of the treatment. This could justify the increasing number of gastroenterologists involved in this issue. In practice, if a patient does not show previous medical charts to the prescribing doctor and he does not remember in that moment the previous

treatments, the physician could prescribe the same therapy. Although limited by its retrospective design, the outcome of this study encourages the planning of updating courses among generalists as well as specialists for a medical education aiming to stimulate the appropriate application of European Guidelines [3].

Conflicts of Interest Statement

None to declare.

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