SUMMARY

BACKGROUND:

_Helicobacter pylori_ (HP) has been associated with the presence of duodenal ulcer, gastric ulcer and chronic active gastritis. It is also speculated that HP may have a role in gastric cancer development. For this reason, the development of short-duration low cost-effective therapies is important, especially for the treatment of low-income populations from underdeveloped countries. Besides this, high rates of reinfection after successful treatment would dissipate any potential long-term benefit the eradication of the HP could offer. The goal of the present study is to assess the effectiveness of three schemes for short treatment of this infection, as well as assessing the rate of reinfection after one year in patients who have been successfully treated for HP.

METHODS:

Patients with diagnosis of HP infection, found in their antral gastric biopsies (hematoxylin and eosin staining (H-E)), were included. They were assigned to one of the following schemes: omeprazole 20 mg bid, clarithromycin 500 mg bid, and amoxicillin 1 g bid. (SCHEME 1); tetracycline 500 mg qid, furazolidone 100 mg qid, and colloidal bismuth subcitrate 120 mg qid. for 7 days (SCHEME 2); and tetracycline 500 mg tid, furazolidone 100 mg tid, and colloidal bismuth subcitrate 120 mg tid. for 10 days (SCHEME 3). Patients were instructed to come back for follow-up 6 to 8 weeks after starting the therapy. At that time, a control upper endoscopy was performed and 3 antral biopsies were taken. Biopsies were stained with H-E for histologic assessment and with Warthin-Starry (WS) for HP diagnosis. A single experienced pathologist read all biopsies. In both, the biopsy before treatment and the control biopsy, the following parameters were looked for: presence of HP; presence, depth and grade of chronic gastritis (lymphoplasmocytic infiltrate); presence and grade of inflammatory activity (polymorphonuclear infiltrate); presence of glandular atrophy; presence, grade (partial or total) and extent (focal or multifocal) of mucinous damage (epithelial damage); presence of intestinal metaplasia; and presence of lymphoid follicles. For assessing the one-year reinfection rate, we studied patients who had previously been treated with tetracycline 500 mg qid., furazolidone 100 mg qid., and colloidal bismuth subcitrate 120 mg qid. for 10 days, and who had completed at least one year since their treatments. Additionally,
patients from SCHEMES 2 and 3 who had completed one year after successful treatment were also included for one-year reinfection assessment.

RESULTS:

For SCHEME 1, 26 patients were recruited and 24 completed the study. HP eradication rate for this group was 75% (18/24). Control biopsies showed improvement in the following parameters: grade of chronic gastritis (p=0.004); presence and grade of inflammatory activity (both p<0.001); and presence, grade and extent of mucinous damage (p=0.004, p=0.017 and p<0.001). For SCHEME 2, 23 patients were recruited and 19 completed the study. HP eradication rate for this group was 94.7% (18/19). Control biopsies showed improvement in the following parameters: grade of chronic gastritis (p<0.001); presence and grade of inflammatory activity (both p<0.001); and presence, grade and extent of mucinous damage (p=0.008, p=0.002 and p<0.001). For SCHEME 3, 28 patients were recruited and 20 completed the study. HP eradication rate for this group was 95% (19/20). Control biopsies showed improvement in the following parameters: grade of chronic gastritis (p=0.001); presence and grade of inflammatory activity (both p<0.001); and presence, grade and extent of mucinous damage (p=0.001, p=0.001 and p<0.001). There was no significant change in the other histologic parameters. For one-year reinfection assessment, 37 patients were enrolled of whom 35 were found to continue being HP negative (94.6%). The one–year reinfection rate was 5.4% (or 4.5% per year-patient, for a total of 44.6 year-patient of follow up).

CONCLUSIONS:

The triple drug short-duration scheme including omeprazole, clarithromycin and amoxicillin for 7 days does not yield appropriate HP eradication rates (75%). More studies using other therapeutic schemes with the same drugs among Peruvians are warranted. The schemes including tetracycline, furazolidone and bismuth for either 7 or 10 days are effective in HP eradication (94.7% and 95% respectively). Eradication of HP is followed by improvement in the following histologic parameters: grade of chronic gastritis (LMN infiltrate); presence and grade of inflammatory activity (PMN infiltrate); presence, grade and extent of mucinous damage. The one-year reinfection rate for the population studied was 5.4% (4.5% per year-patient).