

中文題目：比較依抗藥性基因與依抗生素敏感性引導之療法在幽門螺旋桿菌第三線治療之療效- 一項多中心之隨機分派臨床試驗

英文題目：Comparison of genotypic resistance guided versus susceptibility testing guided therapy for the third-line eradication of *H. pylori*- a multicenter randomized trial

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前言 (Background): Treatment of refractory *Helicobacter pylori* (*H. pylori*) infection remains a challenge in clinical practice. However, traditional susceptibility testing is time consuming, inconvenient, costly, and the availability of this test is low. Recently, point mutations at 23S rRNA and gyrase A have been reported to be associated with clarithromycin and levofloxacin resistance. However, whether genotypic resistance guided therapy is more effective or non-inferior to susceptibility testing guided therapy remains unknown. Therefore, we aimed to compare the efficacy of genotypic resistance guided versus susceptibility testing guided therapy in the third line treatment for refractory *H. pylori* infection. We hypothesized that genotypic resistance guided sequential therapy is non-inferior to empiric therapy in the third line treatment for refractory *H. pylori* infection.

材料及方法 (Materials and Methods): This multicenter, open label, parallel group, randomized trial was conducted since 2017.07.20. Adult (≥ 20 years old) patients who failed from at least two eradication therapies for *H. pylori* infection will be enrolled. Genotypic and phenotypic resistances were determined in patients who failed from at least two eradication therapies by polymerase-chain-reaction with direct sequencing and E-test and agar dilution test, respectively. Eligible patients were randomized into either one of the treatment groups (A) genotypic resistance guided therapy; or (B) susceptibility testing guided therapy. Eradication status was determined by ¹³C-urea breath test at least 6 weeks after eradication therapy. The primary outcome was the eradication rate in the third line treatment (genotypic versus susceptibility testing guided therapy) according to intention-to-treat (ITT) analysis. The eradication rate according per protocol analysis and the adverse effects were the secondary outcomes.

結果 (Results): We have recruited 320 patients. The prevalence of amoxicillin, clarithromycin, levofloxacin, metronidazole, and tetracycline resistance were 16.2% (24/148), 94.6% (140/148), 75% (111/148), 67.6% (100/148), and 8.8% (13/148) in group A, respectively, and were 23.3% (34/146), 93.8% (137/146), 71.2% (104/146), 71.2% (104/146), and 11% (16/146) in group B, respectively. The demographic characteristics and prevalence of antibiotic resistance were not significantly different in the two treatment groups. The eradication rates in group A and group B

were 90.7% (137/151)及 88.7% (133/150) (p=0.556) in the ITT analysis, respectively, and were 91.3% (137/150) and 89.35% (133/149) (p=0.545) in the PP analysis, respectively. The frequency of adverse effects were 51.3% (78/152) and 56% (84/150) (p=0.414 in group A and group B, respectively).

結論 (Conclusion): Genotypic resistance guided therapy is not inferior to susceptibility testing (phenotypic resistance) guided therapy in the third-line treatment for refractory *H. pylori* infection.

Keywords: refractory *H. pylori*, resistance, genotypic, susceptibility testing, third-line