

中文題目：幽門螺旋桿菌除菌治療後腸道菌相、抗藥性及代謝指標之長期變化

英文題目：**Long-term changes of gut microbiota, antibiotic resistance, and metabolic parameters after *Helicobacter pylori* eradication**

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前言(Background): We aimed to assess the short-term and long-term impacts of different *Helicobacter pylori* (*H. pylori*) eradication regimens on the gut microbiota, antibiotic resistance, and metabolic parameters.

材料及方法(Materials and Methods): Adult patients with documented *H. pylori* infection ($n=1620$) were randomized in this multicenter, open-label trial to receive concomitant therapy for 10 days (C10) or bismuth quadruple therapy for 10 days (BQ10) or triple therapy for 14 days (T14). The long-term outcomes included the reinfection rate, the changes in the gut microbiota, antibiotic resistance, and metabolic parameters. Fecal samples were collected before and 2 weeks, 2 months, and at least 1 year after eradication therapy. Amplification of the V3 and V4 hypervariable regions of the 16S rRNA was done followed by high throughput sequencing. Susceptibility testing for fecal *E. coli* was done.

結果(Results): Compared to baseline, α -diversity and β -diversity were significantly reduced 2 weeks after T14, C10, and BQ10. α -diversity and β -diversity were restored at week 8 and 1 year in patients treated with T14, but were not fully recovered in patients treated with C10 and BQ10 at week 8 and 1 year. Resistant rates of *E. coli* to ampicillin, ampicillin-sulbactam, piperacillin-tazobactam, cefazolin, cefmetazole, ciprofloxacin, levofloxacin, gentamicin, and trimethoprim-sulfamethoxazole were transiently increased 2 weeks after T14 and C10, but the resistant rates returned to basal state at week 8 and 1 year. The resistant rates of *E. coli* were not significantly increased after BQ10 at week 2, week 8 and 1 year, except for a transient increase to trimethoprim-sulfamethoxazole at week 2. Although there were mild increase in body weight and high density lipoprotein and decrease in the insulin resistance, there were no significant changes in the prevalence of metabolic syndrome at week 8 and 1 year, after T14, C10, and BQ10.

結論 (Conclusion): The antibiotic resistance rate of *E. coli* and prevalence of metabolic syndrome were not increased 1 year after *H. pylori* eradication. The perturbation of gut microbiota appeared to be restored with time but the speed and extent of restoration varied with regimens.

Keywords: refractory *H. pylori*, resistance, genotypic, medication history, sequential therapy