

中文題目：比較相繼式治療10天與14天及三合一治療14天在幽門桿菌第一線藥物之療效及抗藥性之影響- 一項多中心之隨機分派試驗

英文題目：Comparison of the efficacy of sequential therapy for 10-day and 14-day versus triple therapy for 14-day in the first line treatment for *Helicobacter pylori* infection and impact of antibiotic resistance—a multicenter randomized trial

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**Background:** Sequential therapy for 10 days appeared to achieve higher eradication rate than did triple therapy for 7 or 10 days in the treatment of *Helicobacter pylori* infection. However, whether the sequential therapy is better than triple therapy given for 14 days remains unknown. More importantly, few data were available regarding the rescue therapies for patients who failed from sequential therapy. We aimed to compare the efficacy of sequential therapy given for 10 days or 14 days versus triple therapy given for 14 days in the first line treatment and the impact antibiotic resistance on the eradication rate. We also aimed to assess the efficacy of modified sequential therapy containing levofloxacin for patients who failed from sequential therapy and triple therapy.

**Materials and Methods:** Eligible patients were randomized to receive (A) sequential therapy for 14 days (S-14): lansoprazole 30mg and amoxicillin 1g for the first 7 days, followed by lansoprazole 30mg, clarithromycin 500mg, and metronidazole 500mg for another 7 days; or (B) sequential therapy for 10 days (S-10): lansoprazole 30mg and amoxicillin 1g for the first 5 days, followed by lansoprazole 30mg, clarithromycin 500mg, and metronidazole 500mg for another 5 days; (C) triple therapy for 14 days (T-14): lansoprazole 30mg, amoxicillin 1g, and clarithromycin 500mg for 14 days (all given twice daily). Patients with positive <sup>13</sup>C-urea breath test 6 weeks after treatment were retreated with modified sequential therapy for 14 days (MS-14) containing lansoprazole 30mg and amoxicillin 1g for the first 7 days, followed by lansoprazole 30mg, clarithromycin 500mg, and levofloxacin 250mg for another 7 days (all given twice daily). Susceptibility test and genotypic resistance (23S rRNA and *gyrA* mutation) were also determined.

**Result:** A total of 900 patients had been enrolled and the results from 776 patients were available for analysis up to Oct 6, 2011. In the first line therapy (N=776), the eradication rates for S-14 (N=259), S-10 (N=257), and T-14 (N=259) therapies were 89.9% (233/259), 85.6% (220/257), and 82.2% (212/259) in the intent-to-treat (ITT) analysis, respectively (S-14 vs. T-14, p=0.011) and were 93.2% (233/250), 89.8% (220/245), and 85.8% (213/248) in the per-protocol (PP) analysis, respectively (S-14 vs. T-14, p=0.008). The eradication rates for patients with clarithromycin susceptible and resistance were 96% and 60% for S-14 (p<0.001), 92.6% and 71.4% for S-10 (p=0.004), and 90.6% and 50% for T-14 (p<0.001), respectively. The eradication

rates for patients with metronidazole susceptible and resistance were 95.3% and 87.5% for S-14 (p=0.09), 94.7% and 70.3% for S-10 (p<0.001), and 82.7% and 89.7% for T-14 (p=0.378), respectively. In the second line therapy, the eradication rates of the modified sequential therapy containing levofloxacin (MS-14) for patients who failed from sequential therapy (N=25) and triple therapy (T-14D, N=26) were 76% (19/25) and 88.5% (23/26), respectively, in both the ITT and PP analysis (p=0.290).

**Conclusion:** Sequential therapy for 14 days appeared to achieve higher eradication rate than triple therapy for 14 days in the first line therapy. The eradication rate of sequential therapy appeared to be affected by the presence of clarithromycin and metronidazole resistance. Modified sequential therapy containing levofloxacin was effective for patients who failed from both sequential therapy and triple therapy. (**ClinicalTrials.gov.ID:** NCT01042184)

**Keywords:** *Helicobacter pylori*, sequential therapy, triple therapy, levofloxacin, and duration