

**Supplementary Figure 1.** Bismuth quadruple therapy vs. triple therapy.

**Supplementary Figure 2.** Bismuth quadruple therapy vs. high dose dual therapy.



**Supplementary Figure 3.** Double dose PPI vs. standard dose PPI in bismuth quadruple therapy.



**Supplementary Figure 4:** Antibiotic susceptibility test guided therapy vs. empirical therapy.



**Supplementary Figure 5:** Quadruple therapy combined with traditional Chinese medicine vs. quadruple therapy alone.



**Supplementary Figure 6:** Quadruple therapy with probiotics vs. quadruple therapy alone.