two groups ($P>0.05$). Further stratification analyses reveal that a significantly increased risk of colorectal neoplasia associated with hyperplastic polyps was evident among men (OR = 3.03, 95% CI = 1.39–6.61) and subjects with H. pylori infection (OR = 1.88, 95% CI = 1.01–3.54), compared with the control group.

Conclusions The risk of colorectal neoplasia increases in patients with sporadic gastric hyperplastic polyps, especially in male and H. pylori infection patients, and a screening colonoscopy is necessary for these patients to detect colorectal neoplasia.

**A SYSTEMATIC REVIEW IDENTIFIES INADEQUACIES IN THE REPORTING OF CROSSOVER TRIALS IN PROTON PUMP INHIBITORS CROSSOVER TRIALS**

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**Background** Proton pump inhibitors (PPI) were widely used in acid-related diseases. Crossover design was frequently used in clinical trials of PPIs for its efficiency. Few studies were found to assess the quality of reporting of crossover trials for PPIs. Therefore, we aimed to review crossover trials for PPIs and evaluated the quality of reporting of these crossover trials.

**Methods** We searched PubMed for all crossover trials related to PPIs published between January 1999 and June 2018 and evaluated the quality of reporting. Furthermore, two scores with the same range which have been published to evaluating the risk of bias were applied and the relationship and agreement between the two scores were analyzed.

**Results** In total, 74 articles which met our inclusion criteria were included, consisting of 2336 study participants in total. Most of the trials (71.6%) had a washout period of larger or equal than eight days, but only 8 of them making justification. Only 14 of 74 studies evaluated the carry-over effect. In more than 50% articles, sample size calculation has not been mentioned. There was a significant difference in sample size between trials with and without sample size estimation (36 (24.45) vs 21(12.30), $p<0.001$). Paired data test (40.6%) and analysis of variance with random effect or mixed model (40.5%) were the most two frequently used statistical methods for primary analysis. Median Gewandter score was higher than the median Ding score (8(6.9) vs 7(5.8), Wilcoxon signed-rank test, $p<0.001$). Although the Spearman coefficient between the scores were 0.72 ($p<0.001$), the Gamma coefficient was low with 0.357 (95% CI: 0.196–0.519, McNemar test, $p<0.001$) based on groups using both seven as a cutoff. In general, no significant improvement found over time in most evaluating aspects. A recommendation table for reporting crossover trials in PPIs was given according to the deficiencies from the results.

**Conclusions** These findings demonstrated general deficiencies in crossover trials for PPI. In particular, evaluation of carry-over effects should be enhanced. Currently, no strong consensus was reached on reporting of crossover trials, requiring guidelines for proper reporting of crossover trials.