Triple Therapy, Sequential Therapy, and Concomitant Therapy for Helicobacter pylori Infection in Korea: A Multicenter, Randomized Controlled Trial

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Background: Eradication of Helicobacter pylori infection with triple therapy (TT) has been reported to achieve unacceptable rates in Korea. Sequential therapy (ST) and concomitant therapy (CT) has been suggested as alternatives to the TT regimen. The aim of this study was to compare the efficacy of ST and CT with that of TT in Korea.

Methods: For this multicentre, randomized trial, patients (>20 years of age) with H. pylori infection from 5 centers in Korea were recruited. Patients were randomly allocated to the TT, 49 patients to CT group, and 29 patients to the ST group. For ITT analysis, the eradication rates of TT, ST and CT were 67.2% (41/61), 59.2% (29/49), 68.3% (28/41), respectively. For PP analysis, the eradication rates were 91.1% (41/45), 82.9% (29/35), 93.3% (28/30), respectively. We recorded no significant difference in the occurrence of adverse effects or in compliance between the three groups.

Conclusions: TT and CT regimens seem to achieve higher eradication rates than the ST regimen in Korea. Additional study results from more patients are expected.

Serum Pepsinogen Assay is Not Valuable in Reinforced Subjects After H. pylori Eradication

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Background: The serum titer of anti-Helicobacter pylori immunoglobulin G (IgG) antibody starts to increase again when reinfection occurs after a successful eradication. The aim of this study was to evaluate whether the serum pepsinogen (PG) assay is effective for the diagnosis of gastric atrophy after reinfection.

Methods: This study included consecutive Korean adults who had a remote H. pylori eradication therapy, but showed positive serum anti-H. pylori IgG antibody test on the day of upper gastrointestinal endoscopy and serum PG test at our center. Advanced chronic atrophic gastritis on endoscopy was defined as either closed- or open-type atrophy. Serologic atrophy was defined as PG (I/I ratio <3.0) and PG I level < 70 ng/ml.

Results: Of the 131 subjects who fulfilled the study inclusion criteria, 50 showed high bacterial loads (serum anti-H. pylori antibody titer > 150 AU/ml) and 28 showed low bacterial loads (< 50 AU/ml). The high bacterial load group showed highest PG levels and lowest PG (I/I) ratio (Table 1). Although serologic atrophy was more frequent in the high bacterial load group (p=0.034), this group showed the highest serum PG I levels (p=0.001).

Conclusions: The severity of gastric atrophy cannot be assessed by serum PG assay after reinfection, as suggested by our finding that PG (I/I) ratio is inversely related to the PG I level. Higher bacterial load induces a larger increase in PG II level than PG I level due to severe inflammatory reaction upon reinfection. Therefore, a decreased PG (I/I) ratio is no longer valuable for detecting serologic atrophy in the reinfeected subjects after a successful H. pylori eradication.

Effect of Helicobacter pylori Eradication on the Development of Metachronous Gastric Cancer After Resection of Early Gastric Cancer: A Systematic Review and Meta-Analysis

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Background: There still remains controversies about effect of Helicobacter pylori eradication on the development of metachronous gastric cancer after endoscopic resection of early gastric cancer (EGC). The aim of this study was to assess the efficacy of Helicobacter pylori eradication for the prevention of metachronous recurrence after endoscopic resection of EGC.

Methods: A systematic literature review was conducted using the core databases (PubMed, EMBASE, and the Cochrane Library). Metachronous gastric cancer recurrence rates between Helicobacter pylori eradicated vs. non-eradicated group were extracted and analyzed using risk ratios (RRs). A random effect model was applied. The methodological quality of the enrolled studies was assessed by the Risk of Bias table and Newcastle-Ottawa Scale. Publication bias was evaluated through the funnel plot, trim and fill method, Egger’s test, and rank correlation test.

Results: A total of 5914 patients with EGC or dysplasia was enrolled from 10 studies. Overall, Helicobacter pylori eradicated group showed a RR of 0.467 (95% CI: 0.362-0.602, P<0.001) for the development of metachronous recurrence after endoscopic resection of EGC. Sensitivity analyses showed consistent results. Publication bias was not detected.

Conclusions: In this analysis, Helicobacter pylori eradication reduces the occurrence of metachronous gastric cancer after endoscopic resection of EGC.

Korea’s Contribution to Endoscopic Submucosal Dissection: A Bibliographic Analysis

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Background: To evaluate the articles published by Korean endoscopists in the MEDLINE between 1971 and 2014.

Methods: A systematic literature review was conducted using the MEDLINE database (through PubMed). The searching keyword was ‘endoscopic submucosal dissection’.

Analyzed parameters included the total number of articles, journal, institution, country, published year, and number of citation. The number of citation was measured by the Institute for Scientific Information Web of Knowledge-Web of Science (SCIE) database on July 2014.

Results: A total of 1791 papers were searched in 244 journals (941 articles in SCI journal, 525 articles in SCI journal, and 325 non-SCI, SCI articles). Among the total articles, Korea’s contribution was 15.6% (n=304) and ranked 2nd in the world. The journals in the order of number of articles were as follows; Endoscopy (n=206), Gastrointest Endosc (n=187), Dig Dis Endosc (n=137), Surg Endosc (n=134), and World J Gastroenterol (n=82). Among the literatures written by Korean authors, the journals in the order of number of articles were as follows; Surg Endosc (n=38), Clin Endosc (n=35), Gastrointest Endosc (n=31), and Endoscopy (n=24). The mean citation number was 12.1 ± 25 in the total literatures. However, the number was decreased in the articles written by Korean authors; 7 ± 14.2. The most cited article written by Korean authors was ‘Therapeutic outcomes in 1000 cases of endoscopic submucosal dissection for early gastric neoplasms: Korean ESD Study Group multicenter study’ published in 2009, which was cited 153 times until now.

Conclusions: Korea’s contribution to endoscopic submucosal dissection has been increasing.