Effect of IV PPI during NPO Time on Post-ESD Bleeding

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Aim: Intravenous form of proton pump inhibitor (IV PPI) is routinely used before and after ESD to prevent bleeding and to heal ulcer. However, there is controversy about effectiveness of IV PPI treatment during NPO time. We aimed to clarify that IV PPI really can prevent post ESD bleeding.

Materials and Methods: Between March 2009 and September 2011, 209 patients who underwent complete ESD for adenoma and early gastric cancer were enrolled. Post-ESD coagulation (PEC) using a coagulation forceps and argon plasma coagulation was introduced. Age, gender, medications, tumor feature (gross type, pathology, size, location, depth), procedure time, second look endoscopy, IV PPI, and PEC were investigated. Post-ESD bleeding was defined as major bleeding (hematemesis or melena) or minor bleeding (type Ia or Ib according to Forrest classification).

Results: We used IV PPI in 101 patients, and didn't use IV PPI in 108 patients. Pathological findings show adenoma in 102 patients, and early gastric cancer in 107 patients. Only mucosal invasion was noted in 181 patients, and submucosal invasion was noted in 28 patients. The tumor located in antrum (120 patients), body (81 patients), and cardia (8 patients). Protruded type was noted in 109 patients, flat type was noted in 26 patients, depressed type was noted in 74 patients. In univariate and multivariate analysis, only tumor’s longest diameter has an effect on post ESD bleeding. Delayed bleeding occurred after ESD in 23 patients [Major bleeding in 8 patients (3.8%), minor bleeding in 15 patients (7.1%)], controlled in all cases by endoscopic hemostasis. Major bleeding was noted in 8 patients (PPI : non-PPI=3/101 : 5/108) and minor bleeding was noted in 15 patients (PPI : non-PPI=7/101 vs. 8/108). There was no significant difference between major and minor bleeding ratios between the two groups.

Conclusions: This prospective randomized case control study suggested that IV PPI before and after ESD can't lower bleeding rate.

Key Words: Post-ESD bleeding; IV PPI