Impact of Tumor Location on Clinical Outcomes of Gastric Endoscopic Submucosal Dissection: Evaluation

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**Background:** Endoscopic submucosal dissection (ESD) is one of the most commonly used method in endoscopic treatment of gastric tumor. However, locational factors associated with successful ESD were not well known. Therefore, we evaluated a detailed analysis of correlation between location of the lesion and successful ESD.

**Methods:** From January 2008 to December 2010, ESD of 1,443 gastric tumors (733 early gastric cancers and 710 dysplasias) was performed at Yonsei University College of Medicine, Seoul, Korea. En bloc resection rate, complete resection rate, procedure time, complication rate were analyzed according to tumor location.

**Results:** The rates of en bloc resection and complete resection (defined as negative resection margin) were 91% (1,318/1,443) and 89% (1,287/1,443), respectively. In major complication, acute bleeding (<48 hr) occurred in 48 lesions (3.3%), delayed bleeding in 15 lesions (1.0%) and perforation in 39 lesions (2.7%). Tumor in upper-third body (with cardia and fundus) is associated with significant higher rate of incomplete resection (19.4% vs. 10.2%; p=0.005), piecemeal resection (15.3% vs. 8.2%; p=0.015), perforation (9.2% vs. 2.2%; p<0.001) and longer procedure time (90.5 vs. 59.7 minutes; p<0.001) than below the upper-third body. Tumor in posterior wall is associated with significant higher rate of incomplete resection (14.8% vs. 9.2%; p=0.002), piecemeal resection (11.6% vs. 7.5%; p=0.013), and longer procedure time (69.41 vs. 58.84 minutes; p<0.00) than other location. In multivariate analysis, location (upper-third body), tumor size (>20 mm), histology (gastric carcinoma), and procedure time (>60 minutes) were significantly associated with incomplete resection.

**Conclusions:** ESD is an effective and safe therapy in the management of gastric tumors. Endoscopists have to accept the need for advanced endoscopic techniques for performing ESD in the case of upper portion of stomach.

**Key Words:** Endoscopic submucosal dissection (ESD); Gastric neoplasm; Tumor location