Endoscopic Prediction for Depth of Tumor Invasion in Early Gastric Cancer

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Background and Aims: Although conventional endoscopy is a good diagnostic tool for evaluation of tumor depth (T staging) in early gastric cancer (EGC), standard endoscopic criteria and its accuracy have not been determined. We aimed to evaluate the diagnostic accuracy of endoscopic T staging and to identify characteristic endoscopic features for mucosal (T1m) and submucosal (T1sm) tumors.

Patients and Methods: A consecutive 2105 patients with EGC underwent either surgical (n=1,624) or endoscopic resection (n=481) were enrolled. Endoscopic staging was performed retrospectively by consensus between two endoscopists, which was based on the characteristic endoscopic criteria for T1m (smooth surfaced protrusion or depression, slight marginal elevation, smooth tapering of converging folds) and those for T1sm (irregular surface, marked marginal elevation, and clubbing/abrupt cutting/fusion of converging folds). Endoscopic staging was compared with the pathological staging of the resected specimen.

Results: Overall accuracy of endoscopic staging was 78.0% (1642/2105). The sensitivity, specificity, and positive and negative predictive values of endoscopic staging for T1m were 85.5%, 73.9%, 82.0%, and 78.5%, whereas those for T1sm were 72.6%, 81.9%, 71.9%, and 82.4%, respectively.

Conclusions: Conventional endoscopy showed a reliable accuracy for T staging in EGC, and thus it may be an effective method for assessing penetration depth. A detailed endoscopic evaluation regarding tumor base, margin, and converging folds may provide useful information to determine tumor depth and to select the optimal therapeutic strategy, particularly for endoscopic resection.