Conventional vs. Jumbo Forceps Biopsy for the Diagnostic Accuracy of Gastric Neoplasia before ESD

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Aim: An endoscopic forceps biopsy carries the risk of missing the neoplastic foci within a gastric neoplastic lesion and underestimating the grade of neoplasia because only a small portion of the lesion is sampled using this technique. The aim of this prospective study was to compare the diagnostic accuracy of gastric neoplasia before ESD between conventional forceps and jumbo forceps.

Methods: Between May 2009 and September 2010, 155 gastric neoplastic lesions (adenomas or EGC from 143 patients were randomized to two groups, conventional biopsy forceps (7 mm) and jumbo forceps (8 mm), and four specimens were obtained from each lesion. Each pathologic result of the four endoscopic biopsied specimens between the two groups was compared with that of ESD specimens.

Results: Of the 143 patients, 110 (76.9%) were men; median age was 64.64±10 years. Twenty-eight gastric neoplastic lesions in 25 patients were excluded because ESD was not performed or because pathologic result was inappropriate. Finally, 66 gastric neoplastic lesions in 60 patients and 61 gastric neoplastic lesions in 58 patients were allocated to conventional group and jumbo group. A total of 127 ESD specimens in 118 patients were analyzed. The pathological diagnoses of ESD specimens were as follows: 45 (35.4%) adenomas with low grade dysplasia, 19 (15%) adenomas with high grade dysplasia, and 62 (48.8%) adenocarcinomas. The rates of concordance from the first to all four endoscopic forceps biopsy specimens and the ESD specimens were 66.7%, 72.7%, 74.2% and 81.8% in conventional forceps group and 72.1%, 77%, 82% and 85.2% in jumbo forceps group (p=0.505, p=0.575, p=0.294, p=0.603), respectively.

Conclusions: Obtaining 4 endoscopic biopsy specimens rather than only one before ESD improved diagnostic accuracy by about 15%. Despite of bigger specimen size, however, jumbo forceps was not proven to be superior to the conventional forceps for better diagnostic accuracy of gastric neoplasia.