

Endoscopic Resection of Gastric Cancer Caused by Adenoma

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See “Gastric Cancer Caused by Adenoma: Predictive Factors Associated with Lesions Other Than the Expanded Indications” by Seong Hwan Park, et al. on page 246, Vol. 12, No. 3, 2018

Gastric adenoma is an important premalignant lesion. The annual incidence of gastric cancer is 0.6% for patients with mild to moderate dysplasia and 6% for those with severe dysplasia.¹ Differentiated or intestinal-type carcinoma, rather than the diffuse type, is mainly associated with this carcinogenic pathway.² Recently, Choi *et al.*³ detected pre-existing adenoma in 15.6% of endoscopically resected early gastric cancer (EGC), and EGC with pre-existing adenoma showed a greater association with *Helicobacter pylori*-related chronic inflammation than EGC without pre-existing adenoma. Regarding the treatment of adenoma, particularly with low-grade dysplasia (LGD), there is controversy over whether to treat all LGD or selectively treat LGD with risk factors. Since the diagnosis of gastric adenoma with LGD in Korea carries a substantial risk of developing cancer,⁴ gastric adenomas with either LGD or high-grade dysplasia (HGD) are usually resected endoscopically. However, no treatment strategy has been established for mixed lesions with gastric cancer and adenoma, since gastric cancer derived from the adenoma-carcinoma sequence is less frequent.⁵ Most studies have focused on differentiating between adenoma and cancer and how to reduce the histological discrepancy rate between the results of endoscopic forceps biopsy and endoscopic resection (ER).^{6,7}

The article published in *Gut and Liver*, “Gastric cancer caused by adenoma: predictive factors associated with lesions other than the expanded indications” by Park *et al.*⁸ started from the question, “Can the current indications for curative ER of gastric cancer be applied to the gastric cancer caused by adenoma?” They also investigated the predictors of which lesions exceed the expanded indications for ER. They analyzed 342 patients diagnosed with gastric cancer caused by adenoma who un-

derwent ER. The resected specimens were sectioned and each tissue slice was then examined to determine the extent of tumor involvement and the borders of the tumors. Patients with adenomatous components at the margin of the carcinoma were defined as cancers arising from adenomas. The overall curative resection rate was 92.7%; it was 100% (185/185) for lesions meeting the absolute indications, 98.3% (118/120) for lesions meeting the expanded indications, and 0% (0/22) for lesions exceeding the expanded indications. The overall rate of lymph node metastasis was 0.3% (1/327): 0% (0/185) in the absolute group, 0% (0/118) in the expanded group, and 4.5% (1/22) in the beyond the expanded group. A gross tumor size ≥ 3 cm and carcinoma component $\geq 35\%$ were independently associated with lesions beyond the expanded indications. Unlike the previous studies, Park *et al.*⁸ focused on the treatment of EGC caused by adenoma. They demonstrated that the current indications for curative ER of EGC can be applied to gastric cancer arising from adenoma, and there are some predictive values for non-curative resection. The treatment of lesions with mixed adenoma and EGC has been based on the indications of ER for EGC. However, no study has evaluated whether the current indications for ER are indeed applicable to EGC caused by adenoma, and the treatment outcome has not been evaluated. Park *et al.*⁸ is meaningful in that it is the first study to provide a guide for the resection of EGC caused by adenoma, and parameters associated with non-curative resection.

However, we regret that no further study using tissue mapping was performed. As the authors mentioned, each slide was examined on mapping paper to identify the tumor borders and showed cancer in the red area and adenoma in the blue area. On analyzing the tissue that they presented in this study, some

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red areas indicating cancers were concentrated together, based on Fig. 2, although the authors stated that most cancers were distributed in a mosaic pattern. Concentrated red areas may be observed in other cases. These areas have important implications for the study of adenoma and EGC. Previous studies of the histological discrepancy between adenoma and EGC have focused mainly on the endoscopic findings. To our knowledge, no studies have been based on mapping resected tissue.^{9,10} Therefore, another impressive outcome might be expected by comparing the endoscopic findings and maps of cancerous and non-cancerous compartments.

This study upset our concept of the curative resection of adenoma that was upgraded to cancer after ER. Kim *et al.*⁶ had reported that 18.7% of gastric LGD showed upgraded histology after ER. Most endoscopists believed that the lesions that were upgraded to EGC after ER were usually included in the curative resection, since they are thought to be an early cancerous change. However, in addition to the curative resection rate, Park *et al.*⁸ showed that about 6.6% of the patients had lesions beyond the expanded indications. Although the results of endoscopic forceps biopsies were reported as adenoma, lesions with a gross tumor size ≥ 3 cm and a carcinoma component $\geq 35\%$ can be included in non-curative resection. This suggests that careful selection of the patients for ER is essential to reduce the risks associated with an unnecessary procedure. This study provides important data that should help with the treatment strategy for EGC caused by adenoma. Since the ultimate goals for the treatment of EGC caused by adenoma are not only curative resection but also preventing unnecessary ER, further studies must validate other parameters associated with non-curative resection.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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