Endoscopic submucosal dissection (ESD) is a powerful method for treating gastric epithelial neoplasms. The presence of ulceration is one of the most important factors that determine the possibility for ESD treatment in patients with early gastric cancer (EGC). Guidelines for gastric cancer suggest that four factors should be defined to choose endoscopic resection as the treatment modality: size, invasion depth, pathological differentiation, and presence or absence of ulceration. For the endoscopist, the presence of ulceration in EGC should be determined before ESD. Therefore, ulceration in EGC should be determined on the basis of the endoscopic findings in clinical practice. Sometimes, misinterpretation of endoscopic ulcerations can result in a more aggressive treatment; therefore, exact determination of ulceration is important in selecting either endoscopic resection or surgery. About 20 years ago, Gotoda et al. suggested the indication of endoscopic resection after review of surgical specimens. In this study, ulceration, or ulcer scar, was defined as converging folds, deformity of the muscularis propria, or fibrosis in the submucosa or the deeper layers, without considering endoscopic image findings.

In this issue of *Clinical Endoscopy*, Park et al. performed a questionnaire survey composed of a summary of each case and endoscopic images of 7 patients with EGC. This study suggested that the duration of endoscopic practice (more than 5 years) and experience with ESD were the significant factors associated with accurate endoscopic diagnosis of ulcer. However, although the duration of endoscopic practice and experience with ESD were the significant factors, even for experienced endoscopists, diagnostic accuracy was approximately 28% in the case of image C. In this paper, image C showed a shallow mucosal break without converging folds. The authors also commented that endoscopic ulcerations in EGC are quite difficult to define; therefore, this overestimation may result in more aggressive treatment. We also agree with this comment and performed one unpublished study about the endoscopic diagnosis of ulceration in EGC. We analyzed the endoscopic and pathological findings from 104 patients who underwent ESD or curative gastrectomy for EGC that showed endoscopic ulcers. Two expert pathologists reviewed the pathological slides again. The discrepancy between the endoscopic and pathological ulcers was 46.15% (48/104). The 48 cases that showed discrepancy were EGC IIC type lesions, with only erosive lesions on the pathological review. Our study also demonstrated the difficulty of endoscopic diagnosis of ulceration in EGC.

The main limitation of ESD is the presence of micrometastasis. Although curative surgical resection was performed...
in EGC, the recurrence rate was approximately 1.7%–3.4%, which may be due to micrometastasis. According to a previous report, tumor size, macroscopic type, accompanying ulcers, and depth of invasion are strongly associated with micrometastasis. Therefore, tumors with suspected accompanying ulcers may have a recurrence risk due to micrometastasis, which may indicate the inappropriateness of ESD. For these reasons, therapeutic endoscopists can hesitate to perform ESD in such cases, especially in those with accompanying ulcers.

Gotoda et al. suggested the indication of endoscopic resection for EGC after investigating surgical specimens about 20 years ago without consideration of the endoscopic finding. Until now, this indication has been accepted as a universal truth among therapeutic endoscopists. However, endoscopic optical technology has been rapidly improving during the recent 20 years; therefore, the resolutions provided by the recent endoscopic imaging modalities cannot compare with those provided by preceding endoscopic imaging modalities. In addition, large ESD data have been accumulated since the introduction of the ESD procedure. A new guideline of ESD indication should be introduced mainly on the basis of endoscopic imaging findings for more accurate patient selection for ESD. Considering the high discordance rate of ulceration between endoscopic and pathological findings, performing an endoscopic resection for a confirmative diagnosis before gastrectomy can be a good option.

In conclusion, even for experienced endoscopists, accurate diagnosis of ulceration in EGC is not easy. Overestimation may result in a more aggressive treatment, so careful endoscopic inspection and minute observation are needed when considering the ESD procedure. We look forward to a new ESD guideline that is easy to use by endoscopists.

Conflicts of Interest

The author has no financial conflicts of interest.

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