What Is the Problem in Broadening the Applicability of ESD for EGC, Technique or Indication?

Ho June Song, M.D.
Division of Gastroenterology, Department of Internal Medicine, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea

Gastric cancer remains the most common cancer in East Asia. In Korea, the proportion of early gastric cancer (EGC) at diagnosis is increasing due to health screening endoscopy. Surgical gastrectomy with regional lymph nodes harvest is the gold standard treatment. However, endoscopic resection (ER) including mucosal resection and submucosal dissection is also established as a curative treatment option for selected cases of EGC. The absolute indication of ER for EGC is: 1) differentiated adenocarcinoma, 2) confined to the mucosa, 3) less than 20 mm in size, 4) without ulceration, and 5) no regional node enlargement on CT scan.

Currently, accumulated evidence suggests the need to expand indication of ER treatment in view of tumor size, histological differentiation, and depth of tumor invasion. However, to broaden the applicability of ER for the cure of EGC, endoscopists should consider carefully the expanded indication of ER as well as the use of endoscopic technique.

The risk of lymph node metastasis is the most important issue to expand ER indications. The incidence of lymph node metastasis was reported at 4.5% (50/1,108) in intramucosal and 22.8% (234/1,026) in submucosal EGC. In intramucosal EGC, the risk was significantly associated with tumor size and histological differentiation. They reported that the risk of lymph node metastasis was 1.8% (7/381) in differentiated cancer less than 50 mm in size. For undifferentiated intramucosal cancer, the risk was 1.9% (3/156) in lesions less than 20 mm and there was no risk in lesions less than 10 mm (0/54). In other study, the risk was 0.9% (2/214) for differentiated intramucosal cancer regardless of tumor size, where the two cases of nodal metastasis was found in tumors less than 10 mm. As for undifferentiated intramucosal cancer, the risk was 6.4% (6/94) in lesions less than 20 mm and no lymph node metastasis was observed in lesions less than 10 mm (0/40).

In a Japanese study to define groups of patients who had no lymph node metastasis, none of the 1230 differentiated intramucosal cancer less than 30 mm was associated with nodal metastases. In addition, none of the 929 lesions without ulceration were associated with nodal metastases regardless of tumor size. They reported that the risk of nodal metastases of undifferentiated intramucosal cancer was 4.2%. However, none of the 141 undifferentiated cancers less than 20 mm without ulceration was associated with positive lymph nodes. In this study, the subgroup of 145 submucosal invasion tumors less than 500 μm in depth was entirely free of nodal metastasis when the lesions was less than 30 mm, well differentiated, and lack of lymphovascular invasion on resection pathology.
A few studies have investigated the risk of lymph node metastasis in undifferentiated intramucosal cancer.\(^4,5\) The incidence of lymph node metastasis was in a range from 0.0% to 5.8% in tumors less than 20 mm and without lymphovascular invasion.

Experience with ER is accumulating. However, there are still some technical problems to treat lesions with fibrosis or tumors located in the difficult gastric portions (gastroesophageal junction, cardia and pyloric channel). These cases are associated with a lower en bloc resection rate, post-procedure bleeding and perforation.

Patient’s functional status, comorbidities, and preference may influence the selection for ER treatment. Curability alone, i.e. absolute ER indication, could not preclude the use of expanded ER treatment that might improve quality of life or extend meaningful survival in patients at the poor performance status or in severe comorbiddities. Future challenge should address the effectiveness of ER for these patients with EGC treated under expanded indications.

References