Endoscopic Management of Early Gastric Adenocarcinoma and Preinvasive Gastric Lesions

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KEYWORDS

• Gastric cancer • Stomach neoplasms • Narrow band imaging • Screening
• Detection • Early gastric cancer • Endoscopic submucosal dissection

KEY POINTS

- Early gastric cancer (ECG) can be difficult to diagnosis endoscopically. Endoscopists should be familiar with subtle changes and endoscopic features of EGC.
- Chromoendoscopy and image-enhanced endoscopy improve diagnostic accuracy and facilitate endoscopic resection.
- Endoscopic submucosal dissection is a preferred endoscopic technique for resection of EGC and offers a comparable overall survival to surgical resection.
- Given the risk of metachronous gastric cancer, endoscopic surveillance after endoscopic resection is required.
- Most benign gastric epithelial polyps (fundic gland polyps, hyperplastic polyps, and gastric adenoma) are found incidentally during routine endoscopy. Endoscopic management of these lesions depends on patient symptomatology, a patient's comorbidities (eg, familial syndromes), a lesion's characteristics, and risk of malignant transformation.

INTRODUCTION

With advanced endoscopic imaging technology and widespread use of upper endoscopy, more gastrointestinal abnormalities, including gastric mucosal lesions, are encountered during routine examination. Most benign gastric epithelial lesions and

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early gastric cancer (EGC) are asymptomatic, but in very rare cases, they present with abdominal pain, gastric outlet obstruction, and bleeding. It is essential for clinicians to become familiar with the endoscopic management of these lesions. In this article, the authors provide an overview of endoscopic management of EGC and common premalignant gastric lesions (fundic gland polyps, hyperplastic polyps, and gastric adenoma).

EARLY GASTRIC CANCER

EGC is defined as a lesion confined to the mucosa or submucosa, regardless of lymph node status. Endoscopic resection offers a comparable long-term overall survival rate to surgical resection in patients with EGCs that have a negligible risk of lymph node metastasis.[1–3]

The Paris classification has been used to describe the macroscopic morphology of gastrointestinal lesions: (a) type 0-I (protruded type: 0-Ip, pedunculated; or 0-Is, sessile); (b) type 0-IIa (superficial and elevated type); (c) type 0-IIb (flat type); (d) type 0-IIc (superficial and depressed type); and (e) type III (excavated type).[4] Type 0-IIc is the most common type of EGCs and accounts for greater than 65% of cases, whereas type III (ulcerlike) is the least common type (<10%).[5]

Difference in classification systems used for gastrointestinal lesions results in discrepancies in the diagnosis of adenoma/dysplasia versus carcinoma between Western and Japanese pathologists. The difference in classification systems can be resolved by adopting the proposed terminology (Vienna classification): (1) negative for neoplasia/dysplasia; (2) indefinite for neoplasia/dysplasia; (3) noninvasive low-grade neoplasia (low-grade adenoma/dysplasia); (4) noninvasive high-grade neoplasia (high-grade adenoma/dysplasia, noninvasive carcinoma, and suspicion of invasive carcinoma); and (5) invasive neoplasia (intramucosal carcinoma, submucosal carcinoma, or beyond).[6]

Endoscopic Screening for Early Gastric Cancer

In Japan, because of national screening programs, approximately 50% of gastric cancer cases are diagnosed at early stage.[7] In western countries, early-stage cancer accounts for about 20% of cases.[8,9] A more favorable outcome noted for gastric carcinoma patients in Japan primarily is explained by the differences in a greater frequency of early-stage disease compared with gastric carcinoma patients in the United States.[9]

Endoscopy is the gold standard in detection of EGC; however, it is not a perfect test with a possibility of missing lesions, particularly for small or flat types. Overall sensitivity of endoscopy in detecting gastric cancer ranges from 77% to 93%.[10,11] In a retrospective analysis of 2727 patients in England, in 8.3% of patients with gastric cancer, their cancer was missed at endoscopy within the 3 previous years.[12]

Mass screening for gastric cancer has been implemented in countries with a high prevalence of gastric cancer, such as Japan and Korea.[13,14] On the contrary, in countries with a low prevalence of gastric cancer such as the United States, population-based screening is not cost-effective. However, endoscopy for gastric cancer screening should be considered in individuals at high risk for gastric cancer.[15] Currently, there are no guidelines regarding screening for gastric cancer in the United States. Experts recommend endoscopic screening (1) at age 50 for individuals who are first- or second-generation immigrants from high-incidence regions (East Asia, Russia, and South America); (2) for individuals with a family history of gastric cancer (begin endoscopic screening 10 years before diagnosis in the affected relative); and (3) those with atrophic gastritis or intestinal metaplasia. In addition, those with