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Commentary

Diagnostic Upper Gastrointestinal Endoscopy

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DESCRIPTION

The diagnostic accuracy of endoscopy and biopsy for primary and metastatic upper GI cancer is in the range of 95%. Infiltrating cancers may be less successfully subjected to biopsy, although a tissue diagnosis is still achieved in most cases with large biopsy forceps and needle aspiration cytology [1]. Endoscopy is recommended in all patients with gastric ulcers found on upper GI series, because some benign-appearing gastric ulcers are malignant. If suspicion remains, repeat endoscopy is indicated in 6 to 8 weeks. This is not the case in duodenal ulcer disease, which is only rarely due to cancer, and endoscopy solely to diagnose *Helicobacter pylori* infection is not recommended. Patients with an identifiable high risk for upper GI cancer, such as those with Barrett's esophagus, prior gastric adenomas, or previous partial gastrectomy, may be considered for periodic screening endoscopy, although the benefits of such screening remain controversial [2]. When high-grade dysplasia is identified on endoscopic biopsy of either the stomach or Barrett's esophagus, surgical management should be considered because there is a high likelihood of developing invasive cancer.

In northern China, where chronic esophagitis and epidermoid carcinoma of the esophagus are endemic, population screening programs for esophageal cancer have been carried out on a large scale with promising results. Screening has been based on esophageal cytology and confirmation with endoscopy [3]. Using these methods, early-stage esophageal cancers with good probability for surgical cure have been detected in asymptomatic persons. Similar screening programs, carried out in heavy smokers and drinkers in the United States, have not proven effective. Endoscopy has identified early asymptomatic esophageal cancer in up to 5% of patients with cancers of the head and neck who are also at risk for esophageal cancer [4]. Endoscopic staining of the esophagus with Lugol's iodine solution before endoscopy may help in detecting small areas of squamous cell malignancy. In Japan, where gastric cancer is a leading cause of death, mass population screening with radiography and endoscopy has led to a major improvement in the detection of early disease and subsequent survival. Distal gastric cancer in America and Europe has been decreasing in incidence, but there is an increase in cancers affecting the proximal stomach and an increasing incidence of early gastric cancer detection. Mass screening is not practical or economically feasible in low-incidence Western countries; the increased detection of early gastric cancer has been attributed to greater physician sensitivity to suggestive symptoms and more aggressive application of radiologic and endoscopic methods.

Whether patients with partial gastrectomy for benign disease are at long-term risk for gastric cancer and merit endoscopic screening is also an open question but, in patients who have dysplasia on endoscopic biopsy, endoscopic surveillance is indicated. Periodic endoscopic surveillance of the stomach and duodenum in patients with Familial Adenomatous Polyposis (FAP) and Gardner's syndrome is recommended, including the use of a side-viewing duodenoscope for better visualization of the periampullary area. Adenomas of the duodenum are common in patients with FAP. In such cases, the adenomas tend to be very flat and may be numerous. Carcinoma in the duodenum, most often periampullary, has become a major cause of death in patients with FAP who have had a colectomy. New endoscopic technology is continually being developed. Fluorescence spectroscopy is one such advance currently in clinical trials. Laser-generated light of a specific wavelength is used to stimulate tissue during endoscopy. Differential fluorescence can be detected from benign, dysplastic, and malignant GI tissues. This technology may become a complement to histopathology, especially in sampling large areas of the GI tract before endoscopic biopsy. As a rule, endoscopy is most effective in evaluating intraluminal GI disease, focal and diffuse, benign and malignant. The procedure can be informative but is less effective in assessing abnormal motility, extrinsic compression by contiguous structures, and degree of luminal obstruction. Barium radiologic and Computed Tomography (CT) scans provide not only better evaluation of extrinsic lesions that are causing compression and contour defects in the GI tract but better assessment of the degree of obstruction.

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