Surveillance for Gastric Cancer

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KEYWORDS

• Stomach neoplasms • Gastric cancer • Early gastric cancer • Adenocarcinoma
• Surveillance • Gastrectomy • Follow-up studies

KEY POINTS

- National Comprehensive Cancer Network guidelines for surveillance following resection of gastric adenocarcinoma emphasize clinical follow-up with further investigations based primarily on patient symptoms.
- Current trials studying the utility of surveillance following gastric cancer resection fail to show a survival improvement with intensive surveillance, but are limited because of their retrospective nature.
- Early gastric cancer has different treatment and recurrence patterns compared with advanced gastric cancer and as such requires consideration of different surveillance strategies.
- A variety of modalities are used in surveillance of gastric cancer, including computed tomography (CT), PET/CT, tumor markers, and endoscopy.

INTRODUCTION

Cancer surveillance has a variety of potential benefits and objectives. Primarily, the goal is to identify recurrent or metastatic disease early, and offer treatment that may potentially affect both survival and disease palliation. Other objectives include patient reassurance, psychological support, identification of treatment-related conditions and secondary cancers, and improvement in quality of life. The treatment of gastric cancer has evolved greatly over the last 2 decades with the increased use of endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) for early gastric cancers; surgical advances in the management of local, regional, and metastatic disease; and improvement in multidrug chemotherapy and targeted therapies for both neoadjuvant and adjuvant therapy, as well as metastatic disease. These changes in treatment affect the timing, incidence, and type of recurrence, and require that surveillance regimens be continually reexamined.

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This article evaluates currently published guidelines, and reviews the available literature detailing the utility of common surveillance strategies. It discusses the specific issues related to early gastric cancer and emerging endoscopic therapies as they apply to surveillance. It also discusses the various surveillance modalities, and their respective advantages and disadvantages for optimal cancer surveillance.

CURRENT NATIONAL GUIDELINES, SOCIETY RECOMMENDATIONS, AND GLOBAL CONSENSUS

At present, the National Comprehensive Cancer Network (NCCN) guidelines on follow-up and surveillance of gastric cancer recommends a history and physical (HP) every 3 to 6 months for 1 to 2 years, followed by every 6 to 12 months for 3 to 5 years, then annually. Complete blood count (CBC), complete metabolic profile (CMP), radiological imaging, or upper gastrointestinal endoscopy should only be ordered as clinically indicated per patient symptoms. In addition, the NCCN also recommends monitoring for nutritional deficiency (eg, B_{12}, and iron) in surgically resected patients.[1] Query of the other major international societies, including the Society of Surgical Oncology, American Society of Clinical Oncology, European Society of Medical Oncology, European Society of Surgical Oncology, Cancer Care Ontario, National Institute for Clinical Excellence, Cochrane Collaboration, and Society of the Alimentary Tract yielded no additional quantitative recommendations regarding gastric cancer surveillance.[2]

Contrary to the American and European minimalistic recommendations, the Japanese guidelines are: "Patients undergoing gastrectomy should be followed systematically for treatment of postoperative symptoms, lifestyle guidance, and early detection of recurrence or second cancer depending on risk of recurrence with endoscopy, US [ultrasonography], and CT [computed tomography] scan. At five years or later after surgery, basic checkups are recommended every year."[3] The Japanese guidelines further expound on surveillance specifically in resection of early gastric cancer with EMR or ESD and that *Helicobacter pylori* should be examined, and, if positive, should be eradicated. Follow-up with abdominal US or CT, as well as annual or biannual endoscopy, is recommended.[4] There are various potential explanations for the heightened surveillance recommended by Eastern agencies. These explanations include a markedly higher incidence of gastric cancer, a higher proportion of early-stage disease as related to aggressive screening protocols, differences in effectiveness of available adjuvant therapies, and potentially a different disease cause and biology.

The discrepancy between the Eastern and Western guidelines are marked and have led to attempts at reaching an international consensus. The conclusion of an international Web round-table of 32 experts from 12 countries discussing the rationale and limits of gastric cancer surveillance was published in 2014.[5] The experts were unable to reach conclusive and uniform recommendations for surveillance. The consensus forum revealed that even the experts practiced a wide variety of regimens, including some experts who practiced intensive surveillance with HPs every 3 months, CBC, CMP, serum markers combined with cross-sectional imaging every 6 months, and endoscopy compared with other experts who performed HPs alone at intervals of 3 to 6 months. However, all experts agree that the available data currently have not shown a survival improvement associated with intensive surveillance. Various reasons for using such intensive surveillance were cited, including patient reassurance, identification of secondary malignancies, symptomatic relief, and outcomes research. Given the lack of consensus, Hur and colleagues[6] examined the surveillance regimens that were being practiced by surgeons, oncologists, and other gastric cancer specialists. They published their survey results of 96 respondents from the Korean Gastric