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GUIDELINE

Self-expandable metal stents for obstructing colonic and extracolonic cancer: European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline

This Guideline is an official statement of the European Society of Gastrointestinal Endoscopy (ESGE). This Guideline was also reviewed and endorsed by the Governing Board of the American Society for Gastrointestinal Endoscopy (ASGE). The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system was adopted to define the strength of recommendations and the quality of evidence.

ESGE guidelines represent a consensus of best practice based on the available evidence at the time of preparation. They may not apply in all situations and should be interpreted in the light of specific clinical situations and resource availability. Further controlled clinical studies may be needed to clarify aspects of these statements, and revision may be necessary as new data appear. Clinical consideration may justify a course of action at variance to these recommendations. ESGE guidelines are intended to be an educational device to provide information that may assist endoscopists in providing care to patients. They are not rules and should not be construed as establishing a legal standard of care or as encouraging, advocating, requiring, or discouraging any particular treatment.

MAIN RECOMMENDATIONS

The following recommendations should only be applied after a thorough diagnostic evaluation including a contrast-enhanced computed tomography (CT) scan.

1. Prophylactic colonic stent placement is not recommended. Colonic stenting should be reserved for patients with clinical symptoms and imaging evidence of malignant large-bowel obstruction, without signs of perforation (strong recommendation, low quality evidence).
2. Colonic self-expandable metal stent (SEMS) placement as a bridge to elective surgery is not recommended as a standard treatment of symptomatic left-sided malignant colonic obstruction (strong recommendation, high quality evidence).
3. For patients with potentially curable but obstructing left-sided colonic cancer, stent placement may be considered as an alternative to emergency surgery in those who have an increased risk of postoperative mortality, i.e. American Society of Anesthesiologists (ASA) Physical Status $\geq$III and/or age $>$70 years (weak recommendation, low quality evidence).
4. SEMS placement is recommended as the preferred treatment for palliation of malignant colonic obstruction (strong recommendation, high quality evidence), except in patients treated or considered for treatment with antiangiogenic drugs (e.g. bevacizumab) (strong recommendation, low quality evidence).

INTRODUCTION

Colorectal cancer is one of the most common cancers worldwide, particularly in the economically developed world.[1] Large-bowel obstruction caused by advanced colonic cancer occurs in 8%–13% of colonic cancer patients.[2–4] The management of this severe clinical condition remains controversial.[5] Over the last decade many articles have been published on the subject of colonic stenting for malignant colonic obstruction, including randomized controlled trials (RCTs) and systematic reviews. However, the definitive role of self-expandable metal stents (SEMSs) in the treatment of malignant colonic obstruction has not yet been clarified. This evidence- and consensus-based clinical guideline has been developed by the European Society of Gastrointestinal Endoscopy (ESGE) and endorsed by the American Society for Gastrointestinal Endoscopy (ASGE) to provide practical guidance regarding the use of SEMS in the treatment of malignant colonic obstruction.

With the exception of one trial,[6] all published RCTs on colonic stenting for malignant obstruction excluded rectal cancers, which were usually defined as within 8 to 10 cm of the anal verge, and colonic cancers proximal to the splenic flexure. Rectal stenting is often avoided because of the presumed association with complications such as pain, tenesmus, incontinence, and stent migration. Proximal colonic obstruction is generally managed with primary surgery, although there are no RCTs to support this assumption. Because of the aforementioned limitations, unless indicated otherwise the recommendations in this Guideline only apply to left-sided colon cancer arising from the rectosigmoid colon, sigmoid colon, descending

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colon, and splenic flexure, while excluding rectal cancers and those proximal to the splenic flexure, and other causes of colonic obstruction including extracolonic obstruction.

METHODS

The ESGE commissioned this Guideline (chairs C.H. and J.-M.D.) and appointed a guideline leader (J.v.H.) who invited the listed authors to participate in the project development. The key questions were prepared by the coordinating team (E.v.H. and J.v.H.) and then approved by the other members. The coordinating team formed task force subgroups, each with its own leader, and divided the key topics among these task forces (see **Appendix e1**, available online at www.giejournal.org).

Each task force performed a systematic literature search to prepare evidence-based and well-balanced statements on their assigned key questions. The coordinating team independently performed systematic literature searches with the assistance of a librarian. The Medline, EMBASE and Trip databases were searched including at minimum the following key words: colon, cancer, malignancy or neoplasm, obstruction and stents. All articles studying the use of SEMS for malignant large-bowel obstruction were selected by title or abstract. After further exploration of the content, the article was then included and summarized in the literature tables of the key topics when it contained relevant data (see **Appendix e2**, **Tables e1–e5**, available online at www.giejournal.org). All selected articles were graded by the level of evidence and strength of recommendation according to the GRADE system.[7] The literature searches were updated until January 2014.

Each task force proposed statements on their assigned key questions which were discussed and voted on during the plenary meeting held in February 2014, Düsseldorf, Germany. In March 2014, a draft prepared by the coordinating team was sent to all group members. After agreement on a final version, the manuscript was submitted to *Endoscopy* for publication. The journal subjected the manuscript to peer review and the manuscript was amended to take into account the reviewers' comments. All authors agreed on the final revised manuscript. The final revised manuscript was then reviewed and approved by the Governing Board of ASGE. This Guideline was issued in 2014 and will be considered for review in 2019 or sooner if new and relevant evidence becomes available. Any updates to the Guideline in the interim will be noted on the ESGE website: http://www.esge.com/esge-guidelines.html.

RECOMMENDATIONS AND STATEMENTS

Evidence statements and recommendations are stated in bold italics.

General considerations before stent placement (**Table e1**, available online at www.giejournal.org)

Prophylactic colonic stent placement is not recommended. Colonic stenting should be reserved for patients with clinical symptoms and imaging evidence of malignant large-bowel obstruction, without signs of perforation (strong recommendation, low quality evidence).

Colonic stenting is indicated only in those patients with both obstructive symptoms and radiological or endoscopic findings suspicious of malignant large-bowel obstruction. Prophylactic stenting for patients with colonic malignancy but no evidence of symptomatic obstruction is strongly discouraged because of the potential risks associated with colonic SEMS placement. The only absolute contraindication for colonic stenting is perforation. In addition, colonic stenting is less successful in patients with peritoneal carcinomatosis and tumors close to the anal verge (<5 cm).[8–10]

Increasing age and American Society of Anesthesiologists (ASA) classification ≥III do not affect stent outcome (i.e. clinical success and complications) in several observational studies,[11–16] although these are well-known risk factors for postoperative mortality after surgical treatment of large-bowel obstruction (**Table 6**).[17–19]

A contrast-enhanced computed tomography (CT) scan is recommended as the primary diagnostic tool when malignant colonic obstruction is suspected (strong recommendation, low quality evidence).

When malignant colonic obstruction is suspected, contrast-enhanced CT is recommended because it can diagnose obstruction (sensitivity 96%, specificity 93%), define the level of the stenosis in 94% of cases, accurately identify the etiology in 81% of cases, and provide correct local and distal staging in the majority of patients.[5,20] When CT is inconclusive about the etiology of the obstructing lesion, colonoscopy may be helpful to evaluate the exact cause of the stenosis.

Examination of the remaining colon with colonoscopy or CT colonography (CTC) is recommended in patients with potentially curable obstructing colonic cancer, preferably within 3 months after alleviation of the obstruction (strong recommendation, low quality evidence).

European studies, including three that are population-based, show that synchronous colorectal tumors occur in 3%–4% of patients diagnosed with colorectal cancer.[21–24] Therefore, imaging of the remaining colon after potentially curative resection is recommended in patients with malignant colonic obstruction. Current evidence does not justify routine preoperative assessment for synchronous tumors in obstructed patients by CTC or colonoscopy through the stent. However, preoperative CTC and colonoscopy through the stent appear feasible and safe in these patients and there are presently no data to discourage their use in this population.[25–28] The role of positron emission tomography (PET)/CT in the diagnosis of synchronous lesions remains to be elucidated.[29]