Emergency Presentations of Colorectal Cancer

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KEYWORDS

• Emergency • Colorectal • Carcinoma • Obstruction • Perforation • Bleeding • Endoluminal stent

KEY POINTS

- Proximal large bowel obstructions are typically treated with resection and anastomosis, whereas distal obstructions have more treatment options and require more catering to the individual situation.
- Obstructing rectal cancer is treated with proximal diversion, allowing for appropriate neoadjuvant therapy before oncologic resection.
- The approach to perforated cancers depends on the degree of peritoneal contamination and associated sepsis.
- Massive hemorrhage is uncommon in colorectal cancer and is treated similar to benign sources of colonic hemorrhage.

INTRODUCTION

Despite increased screening efforts, up to 33% of patients with colorectal cancer will present with symptoms requiring acute or emergent surgical intervention.[1,2] Common emergency presentations include large bowel obstruction, perforation, and hemorrhage. Rates of morbidity, mortality, and stoma formation are higher for patients requiring emergent intervention compared with those managed electively.[3,4] Worse outcomes are felt to be not only related to the emergency itself but also to baseline differences in the 2 patient populations, with emergency patients having more physiologic derangements, dehydration and electrolytes abnormalities, poor nutrition, and neglected comorbidities.

Tumor biology may also play a role in their presentation and outcome. Cancers resected emergently are typically of a more advanced T stage, higher histologic grade,

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and more likely to exhibit lymphovascular invasion.[5–7] Concomitant liver metastases are common as well.[7–9] If forced to operate at the patient's index presentation, the diagnosis and accurate staging information may be unavailable or incomplete. When initial findings suggest widely metastatic disease, the necessity for emergent interventions may have lasting implications on the eligibility for systemic chemotherapy.

The complexities of patients presenting with limited information and suboptimal physiology require individualization of surgical management. The tenets of oncologic resection for colorectal cancer surgery include wide radial, proximal, and distal margins and high ligation of the lymphovascular pedicle for extended lymphadenectomy (>12 nodes). These oncologic principles should be upheld even in cases of emergency surgery for symptomatic colorectal cancers.

The Clinical Practice Guidelines Committee of the American Society of Colon and Rectal Surgeons defines goals of treatment of colon cancer–related emergencies to include the following: (1) avert the immediate negative impact of the complication; (2) achieve the best possible tumor control; (3) ensure timely recovery to permit initiation of appropriate adjuvant or systemic treatment.[10] In this article, the authors look at specific emergency scenarios and the surgical options to achieve those goals.

LARGE BOWEL OBSTRUCTION

Obstruction is a common symptom of colorectal cancer, with an incidence range of 15% to 29%.[11] Obstruction is also the most common indication for emergency surgery for colorectal cancer, making up 77% of emergencies in a recent series.[3] Similarly, colonic malignancy is the most common cause of large bowel obstruction in adults.[1,12,13] As such, surgery for large bowel obstruction presenting acutely should be performed in an oncologic fashion, even if a formal diagnosis of malignancy has not yet been made. Patients presenting with obstruction and no evidence of metastatic disease should be operated on with curative intent.[1]

The presentation of complete bowel obstruction from a colon cancer is typically delayed by a gradual onset of symptoms. Patients may report increasing difficulty with bowel movements or self-medicating with over-the-counter laxatives. They may have developed significant abdominal distension before complete obstipation results in a need for emergency medical attention. Such an insidious onset can result in fairly stable physiology in patients presenting with malignant obstructions. Severe dehydration and electrolyte abnormalities are typically late signs. In some cases, symptoms can be sudden in onset, with severe persistent colicky abdominal pain.[14]

Computed tomography (CT) has become the imaging modality of choice for patients presenting with symptoms concerning for colonic obstruction. It is readily available in emergency departments and can localize an obstructing lesion with a sensitivity of 96% and specificity of 93%.[15,16] Particularly with the use of a triple-contrast protocol (oral, rectal, and intravenous [IV]), CT can make an accurate diagnosis in nearly 89% of cases. CT also offers accurate staging information of both locoregional and distant disease spread[15–17] (**Fig. 1**).

Although less commonly used in current practice, hydrosoluble contrast enema is also a valuable imaging technique. Sensitivity and specificity in colonic obstructions are 80% and 100%, respectively.[15–17] In a stool-filled colon, CT may not be able to identify a small intraluminal lesion that is readily apparent on contrast enema[16] (**Fig. 2**).

Colonoscopy is often not available or appropriate in the emergency setting, and patients presenting in extremis may require surgical intervention before an endoscopic evaluation can be arranged. When feasible, colonoscopy offers the ability to identify