Resection of the Primary Tumor in Stage IV Colorectal Cancer: When Is It Necessary?

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KEYWORDS

• Metastatic colorectal cancer • Primary tumor resection • Survival
• Palliative treatment

KEY POINTS

- The cornerstones in the management of metastatic colorectal cancer are accurate staging and multidisciplinary treatment planning.
- Treatment options are tailored to the patient's burden of disease, performance status, goals of care, and expected survival.
- Staged resection, with either colon or liver resection first, and synchronous resection are options for the management of resectable liver metastases.
- Unresectable metastases with an asymptomatic primary tumor should be initially managed with systemic chemotherapy, avoiding futile interventions.
- Additional therapies for local control at the primary tumor site include colonic stenting, fulguration, and laser therapy.

INTRODUCTION

Approximately 20% of patients with colorectal cancer present with metastatic disease, which can be challenging to manage.[1] Within this subpopulation, there are many different clinical scenarios, leading to a potentially complex decision-making process for selecting a treatment plan. Despite considerable advances in the treatment of metastatic colorectal cancer, in most cases the disease is not curable. Therefore, the treatment goal for most patients is to extend survival and improve the quality of life. Treatment options are tailored to the patient's performance status,

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comorbidities, disease burden, and the presence or absence of symptoms such as bowel obstruction.[2]

For patients with minimal primary tumor symptoms and acceptable performance status, the standard treatment according to the National Comprehensive Cancer Network guidelines is systemic chemotherapy, which has been shown to increase survival.[3,4] Over the last 10 years, the overall survival (OS) rate has improved from 9 to 24 months (and in some series up to 36 months), which is possibly the result of the addition of multiagent chemotherapy.[5,6] First-line chemotherapy with LV5FU2 plus oxaliplatin (FOLFOX) or folinic acid, fluorouracil, irinotecan (FOLFIRI) produces major responses in most previously untreated patients.[7] Systemic therapy alone rarely cures the disease; however, in patients with resectable disease, effective chemotherapy combined with complete resection of metastatic disease maximizes the possibility of a cure.

In this context, several important questions arise. Is the metastatic disease resectable? If so, should the resection be synchronous or staged and, if staged, in what order? If the metastatic disease is not resectable, is resection of the primary tumor indicated? These and related questions are matters of considerable debate, reflecting the complexity of the management of metastatic colorectal cancer. This article reviews the published literature with the goal of developing an evidence-based approach to managing various clinical scenarios associated with metastatic colorectal cancer.

EVALUATION

The evaluation of colorectal cancer is based on the principles of accurate staging and multidisciplinary treatment planning. After a thorough history is taken and a physical examination is performed, the disease is staged. Accurate staging includes tissue diagnosis; carcinoembryonic antigen measurement; and cross-sectional imaging of the chest, abdomen, and pelvis. In addition, rectal cancer requires rectal MRI and/or endorectal ultrasound for local staging. Several imaging modalities, including MRI, computed tomography (CT), and positron emission tomography (PET), are available to identify metastatic disease and facilitate differentiation from other conditions such as hemangiomas, focal nodular hyperplasia, or cysts in patients with liver metastases. Carcinoembryonic antigen levels greater than 20 ng/mL warrant a high degree of suspicion for systemic disease.[8]

SYMPTOMATIC PRIMARY TUMOR

One of the more disagreed on treatment decisions in metastatic colorectal cancer relates to the appropriate time and indication for resection of the primary tumor. Traditionally, symptomatic primary tumors warranted resection but, in reality, the degree of symptoms is variable, and tumors that are mildly symptomatic may become less troublesome after systemic therapy.

Without question, perforated primary tumors with associated peritonitis warrant exploration and resection when feasible. In cases of complete bowel obstruction, the need for urgent or emergency surgery is also straightforward. However, the incidence of this presentation is difficult to measure because cases of complete obstruction are commonly reported together with cases of partial obstruction. Patients with partial or complete bowel obstruction represent between 8% and 29% of all patients with colorectal cancer.[9] Patients with a complete obstruction typically have either stage III or stage IV disease.[10] Complete colonic obstruction requires urgent intervention by stenting, resection, or diversion to relieve this life-threatening condition,