



REVIEW

Treatment of peritoneal metastases from colorectal cancer

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Abstract

Peritoneal seedings of a colorectal tumor represent the second most frequent site of metastasis (after the liver). In the era of 5-fluorouracil (5-FU)-only chemotherapy, the prognosis was poor for colorectal cancer with peritoneal metastases. Within the last few years, new chemotherapeutic and targeted agents have improved the prognosis; however, the response to these treatments seems to be lower than that for liver metastases. The combination of cytoreductive surgery and hyperthermic intraperitoneal chemotherapy have further improved both disease-free survival and overall survival. Keeping this in mind, every patient presenting with peritoneal metastases from colorectal cancer should be evaluated and receive adequate treatment, if possible in the above-mentioned combination. This paper reviews recent advancements in the therapy of peritoneal carcinomatosis.

Key words: colorectal cancer, peritoneal metastases, cytoreductive surgery, intraperitoneal chemotherapy

Introduction

One unique feature of malignant tumor cells is their ability to spread to other organs via distribution through blood, lymph or peritoneal fluid. Once the primary tumor has spread, survival rates decrease rapidly.

Colorectal cancer is the third most common tumor worldwide; in 2035, 2.4 million patients will have developed a colorectal malignancy [1]. In colorectal cancer, the peritoneum is the second most-frequent site for metastases after the liver [2–4]. Maybe due to its poor prognosis, the incidence of peritoneal carcinomatosis has been widely overrated in previous studies. Whereas data-based estimates have shown the peritoneum as the sole site of metastatic disease in up to 25% of all cases, recent studies show that only 10% of patients have isolated peritoneal carcinomatosis. However, up to 20% may have peritoneal metastases with liver or other organ metastases [5]. Nevertheless, the occurrence of peritoneal carcinomatosis is

associated with poor prognosis: With no treatment, median survival is six to nine months [2,3,6,7].

In order to treat peritoneal metastases effectively, various approaches have been made over the past decades. In this study, we will review the current treatment options for colorectal peritoneal metastatic disease.

Systemic chemotherapy and targeted therapeutic agents

For a long time, peritoneal metastases have been regarded as a form of systemic distant metastatic disease and therefore the terminal stage of the disease. Only palliative systemic chemotherapy was used, and the few reported retrospective studies showed disappointing responses for chemotherapy with 5-fluorouracil (5-FU) and leucovorin with patients seldom surviving as long as eight months [2,6,8,9]. However, during the

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