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CASE REPORT

Complete peritonectomy and intraperitoneal chemotherapy for recurrent rectal cancer with peritoneal metastasis

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Abstract

A 68-year-old man underwent laparoscopic low anterior resection for rectal carcinoma in December 2006. Nearly 19 mo after the operation, he developed recurrent rectal cancer with peritoneal metastasis. In September 2008, he subsequently underwent a laparotomy with a peritonectomy, omentectomy, splenectomy, and a Hartmann procedure. Hyperthermic intraperitoneal oxaliplatin 750 mg was administered. The patient was discharged with no postoperative complications and has been well with postoperative FOLFOX chemotherapy.

Key words: Peritonectomy; Peritoneal metastasis; Recurrent rectal cancer

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INTRODUCTION

Peritoneal carcinomatosis has a poor prognosis, and survival is generally less than 6 mo once diagnosed[1,2]. Recent advances in the treatment of this disease have resulted in improved, and even long-term, survival for select patients[3-5]. Optimal cytoreduction and adjuvant intraperitoneal chemotherapy have been credited with much of the recent success in the treatment of this cohort of patients. We would like to share our own experience with a complete peritonectomy and intraperitoneal chemotherapy for recurrent rectal cancer with peritoneal metastasis, and to review the relevant literature.

CASE REPORT

A 68-year-old man underwent laparoscopic low anterior resection (LAR) for upper rectal cancer. Histological examination revealed a poorly differentiated mucinous adenocarcinoma with a 4-cm distal margin and the TNM staging was T2N0M0. On routine follow-up, an anastomotic induration was felt on digital rectal examination 19 mo later, which was confirmed to be adenocarcinoma upon endoscopic biopsy. Abdominopelvic computed tomography and positron emission tomography showed multiple soft tissue infiltrations throughout the peritoneum. At laparotomy, a bulky mass around the previous rectal anastomosis and multiple peritoneal metastatic nodules were identified. A complete peritonectomy (Figure 1), complete omentectomy, splenectomy, and a Hartmann procedure were performed successfully with no visible gross disease at the completion of the procedure. Two catheters were inserted in the abdomen and secured: one on the left side aimed toward the pelvis and the other on the right directed up over the liver. The abdomen was closed, and the peritoneal cavity was filled with heated saline at 42℃. Continuous hyperthermic intraoperative intraperitoneal perfusion with 750 mg of heated oxaliplatin was then performed over 90 min. The operating time was 515 min with a moderate blood loss of 500 mL. Histopathology revealed a recurrent mucinous adenocarcinoma in the rectum with a clear resection margin and multiple metastatic nodules in the diaphragmatic, pelvic, and pericolic peritoneum and omentum. His postoperative course was uneventful, and he was discharged on the 25th postsurgical day. He had difficulty voiding, but this was managed conservatively. For 2 mo after the second

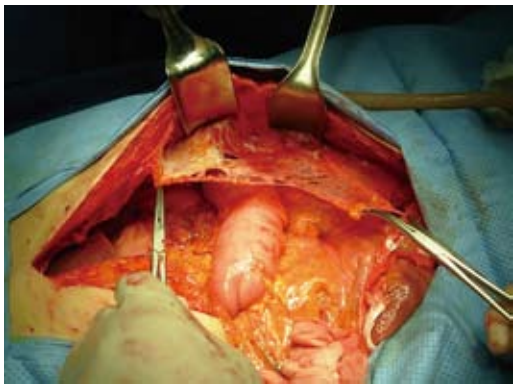

Figure 1 The peritonectomy.

operation, the patient has been well with postoperative FOLFOX chemotherapy.

DISCUSSION

Traditionally, there has been consensus in the oncology community that those patients with peritoneal carcinomatosis of colorectal origin were incurable. Neither systemic chemotherapy nor intraperitoneal chemotherapy alone had any significant impact on survival.

Recently, there has been increased interest in re-examining the management of peritoneal metastatic disease, and in utilizing cytoreductive surgery and hyperthermic intraperitoneal chemotherapy[6-9]. Aggressive cytoreductive surgery attempts to eradicate all residual tumor cells, or to significantly reduce the tumor burden, and the infusion of hyperthermic intraoperative intraperitoneal chemotherapy allows a favorable drug distribution to all surfaces at risk, without delay. A randomized trial by a Dutch group demonstrated superior survival with the combined approach over traditional 5-fluorouracil-based systemic chemotherapy, for peritoneal carcinomatosis of colorectal cancer[6]. Moreover, with proper patient selection, minimal morbidity can be achieved, with good overall survival and prolonged disease-free periods. The 11.1% rate of major perioperative complications and no perioperative mortality achieved in this cohort of patients compares favorably with the 27% quoted in the literature[10]. Elias *et al*[11] recently suggested that preoperative intraperitoneal chemohyperthermia with oxaliplatin is better tolerated than early postoperative intraperitoneal chemotherapy with mitomycin C and 5-FU, and is twice as efficient in curing peritoneal carcinomatosis.

This report describes our initial experience with peritonectomy and hyperthermic intraperitoneal chemotherapy in a patient with recurrent rectal cancer. This combined approach can be a feasible treatment option for the traditionally inoperable recurrent rectal cancer patient with peritoneal metastasis.

REFERENCES

1 **Loggie BW**, Fleming RA, McQuellon RP, Russell GB, Geisinger KR. Cytoreductive surgery with intraperitoneal hyperthermic chemotherapy for disseminated peritoneal cancer of gastrointestinal origin. *Am Surg* 2000; **66**: 561-568

2 **McQuellon RP**, Loggie BW, Fleming RA, Russell GB, Lehman AB, Rambo TD. Quality of life after intraperitoneal hyperthermic chemotherapy (IPHC) for peritoneal carcinomatosis. *Eur J Surg Oncol* 2001; **27**: 65-73

3 **Feldman AL**, Libutti SK, Pingpank JF, Bartlett DL, Beresnev TH, Mavroukakis SM, Steinberg SM, Liewehr DJ, Kleiner DE, Alexander HR. Analysis of factors associated with outcome in patients with malignant peritoneal mesothelioma undergoing surgical debulking and intraperitoneal chemotherapy. *J Clin Oncol* 2003; **21**: 4560-4567

4 **Mohamed F**, Chang D, Sugarbaker PH. Third look surgery and beyond for appendiceal malignancy with peritoneal dissemination. *J Surg Oncol* 2003; **83**: 5-12; discussion 12-13

5 **Yan TD**, Morris DL. Cytoreductive surgery and perioperative intraperitoneal chemotherapy for isolated colorectal peritoneal carcinomatosis: experimental therapy or standard of care? *Ann Surg* 2008; **248**: 829-835

6 **Verwaal VJ**, van Ruth S, de Bree E, van Sloothen GW, van Tinteren H, Boot H, Zoetmulder FA. Randomized trial of cytoreduction and hyperthermic intraperitoneal chemotherapy versus systemic chemotherapy and palliative surgery in patients with peritoneal carcinomatosis of colorectal cancer. *J Clin Oncol* 2003; **21**: 3737-3743

7 **Glehen O**, Cotte E, Schreiber V, Sayag-Beaujard AC, Vignal J, Gilly FN. Intraperitoneal chemohyperthermia and attempted cytoreductive surgery in patients with peritoneal carcinomatosis of colorectal origin. *Br J Surg* 2004; **91**: 747-754

8 **Teo M**, Foo KF, Koo WH, Wong LT, Soo KC. Lessons learned from initial experience with peritonectomy and intra-peritoneal chemotherapy infusion. *World J Surg* 2006; **30**: 2132-2135

9 **Qu ZB**, Liu LX. Management of pseudomyxoma peritonei. *World J Gastroenterol* 2006; **12**: 6124-6127

10 **Ahmad SA**, Kim J, Sussman JJ, Soldano DA, Pennington LJ, James LE, Lowy AM. Reduced morbidity following cytoreductive surgery and intraperitoneal hyperthermic chemoperfusion. *Ann Surg Oncol* 2004; **11**: 387-392

11 **Elias D**, Benizri E, Di Pietrantonio D, Menegon P, Malka D, Raynard B. Comparison of two kinds of intraperitoneal chemotherapy following complete cytoreductive surgery of colorectal peritoneal carcinomatosis. *Ann Surg Oncol* 2007; **14**: 509-514

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