



Treatment of ovarian metastases of colorectal and appendiceal carcinoma in the era of cytoreductive surgery and hyperthermic intraperitoneal chemotherapy

A.M.J. Kuijpers^{a,*}, A.M. Mehta^{a,d}, A.G.J. Aalbers^a,
W.J. van Driel^b, H. Boot^c, V.J. Verwaal^a

^a Department of Surgical Oncology, The Netherlands Cancer Institute – Antoni van Leeuwenhoek, Plesmanlaan 121, 1066 CX Amsterdam, The Netherlands

^b Department of Oncological Gynecology, The Netherlands Cancer Institute – Antoni van Leeuwenhoek, Plesmanlaan 121, 1066 CX Amsterdam, The Netherlands

^c Department of Gastro-enterology, The Netherlands Cancer Institute – Antoni van Leeuwenhoek, Plesmanlaan 121, 1066 CX Amsterdam, The Netherlands

Accepted 14 February 2014

Available online 28 February 2014

Abstract

Aim: To compare outcome of women with ovarian metastasis who underwent cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS-HIPEC) to outcome of women without ovarian metastasis who underwent CRS-HIPEC.

Methods: A prospective CRS-HIPEC database was searched to identify women with surgically treated colorectal carcinoma between 2000 and 2012. Patients with ovarian metastasis were identified and patients with peritoneal carcinomatosis but without ovarian metastasis were included as control cases.

Results: 75 patients with macroscopic ovarian metastasis underwent CRS-HIPEC with curative intent, while 50 female patients without ovarian metastasis were identified who underwent CRS-HIPEC. Patients with ovarian metastasis more often had a primary appendiceal tumour and had a more extensive intra-abdominal tumour load compared to patients without ovarian metastases. Median follow-up time was 45 months (95% confidence interval (CI): 37–53 months). Overall survival (OS) did not differ significantly between the two groups with a median OS in the ovarian metastasis group of 40 months (95% CI 26–54) compared to 64 months (95% CI 17–111, $P = 0.478$) in the non-ovarian metastasis group. Recurrence patterns did not differ significantly between groups ($p = 0.183$).

Conclusions: Patients with ovarian metastasis of colorectal and appendiceal origin who underwent CRS-HIPEC had similar outcome compared to patients without ovarian metastasis. Given the findings of high coincidence of peritoneal metastases with ovarian metastases and ovarian metastases not being an independent factor for survival after CRS-HIPEC, this procedure should be recommended for patients with peritoneal metastases and ovarian metastases of colorectal and appendiceal carcinoma.

© 2014 Elsevier Ltd. All rights reserved.

Keywords: Colorectal carcinoma; Ovarian metastasis; Peritoneal; HIPEC; Cytoreduction; Surgery

Introduction

Metastatic spread to the ovaries has often been considered an ominous development in the progression of

colorectal carcinoma (CRC); ovarian metastases are often rapidly progressive, relatively chemoresistant and associated with a poor prognosis.^{1–5} Development of ovarian metastasis is associated with the presence of peritoneal carcinomatosis (PC) in colorectal cancer patients. In one report, ovarian metastases were found in 52% of patients who underwent cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS-HIPEC) for peritoneal carcinomatosis.⁶ This is relatively frequent compared to the overall ovarian metastases incidence of 2–8% in female colorectal cancer patients.^{3,7,8} Moreover, isolated ovarian

Abbreviations: PC, peritoneal carcinomatosis; CRC, colorectal carcinoma; CRS-HIPEC, cytoreductive surgery and HIPEC.

* Corresponding author. Department of Surgery, The Netherlands Cancer Institute – Antoni van Leeuwenhoek Hospital, Plesmanlaan 121, 1066 CX Amsterdam, The Netherlands. Tel.: +31 20 5122977; fax: +31 20 512 2554.

E-mail address: a.kuijpers@nki.nl (A.M.J. Kuijpers).

^d These authors contributed equally to this work.

metastasis has been demonstrated to be a risk factor for subsequent development of PC.^{9,10} The coincidence of PC and ovarian metastases could imply that these sites share a common metastatic pathway via direct peritoneal seeding; however, this is not universally accepted. Other metastatic routes through lymphatic or haematological spread have been suggested by various groups.^{11–13}

Since ovarian metastases seem to be less responsive to systemic chemotherapy compared to other metastatic sites, oophorectomy is generally recommended. Oophorectomy has been shown to be of varying benefit; it is often considered to contribute to optimal palliation in patients in whom curation can not be established as ovarian metastases are considered to represent hematogeneous spread.^{14–18} Still, with complete oophorectomy in the case of isolated ovarian metastases, a median survival of 31 months has been reported with 5-year survival rates ranging from 15% to 80% in some relatively small studies.^{3,17,18} However, if ovarian metastases develop through peritoneal seeding, CRS-HIPEC may be a more appropriate treatment modality, as this has been shown to be the preferred treatment of peritoneal carcinomatosis.^{19–22} In the Netherlands Cancer Institute, ovarian metastases are considered to be a manifestation of peritoneal carcinomatosis and therefore CRS-HIPEC is systematically performed in these patients.

In this study, we report the outcome of adopting this approach in patients with ovarian metastases, with and without concomitant peritoneal carcinomatosis, as compared to patients with peritoneal carcinomatosis without ovarian metastases.

Methods

Patients and selection

All female patients who were treated with CRS-HIPEC for peritoneal metastasis from colorectal carcinoma or non-mucinous, non-pseudomyxoma, intestinal-type appendiceal carcinoma between 2000 and 2012 at the Netherlands Cancer Institute – Antoni van Leeuwenhoek were included and were grouped according to the presence of ovarian metastases. In the ovarian metastasis group, ovarian metastases were diagnosed histologically after prior oophorectomy, before referral to our institute, or were found radiologically and removed during CRS-HIPEC. The control group consisted of women without ovarian metastasis who underwent CRS-HIPEC in the same time period. Patients with an incidental finding of microscopic ovarian metastasis in grossly normal ovaries were excluded, as were patients who underwent palliative oophorectomy without CRS-HIPEC.

Treatment

All patients included underwent CRS-HIPEC with intraperitoneal mitomycin C according to the Dutch HIPEC

protocol, as described previously.^{20,23} All visible tumour nodules were resected, and visceral resections and peritonectomy procedures were performed as required, to establish a macroscopic complete cytoreduction (R1 resection).²⁴ Subsequently, the open perfusion protocol with mitomycin C was performed. Extent of intraperitoneal tumour load was determined using the Dutch 7 region count.²⁵

Data collection and analysis

Women undergoing CRS-HIPEC for peritoneal metastases of colorectal cancer were identified by retrospective analysis of a prospective database of CRS-HIPEC procedures. Presence of ovarian metastases was confirmed through a review of medical history, pathology and radiology reports.

Statistical analysis

Patient characteristics were analysed by descriptive statistics. Differences between groups were evaluated by chi-square test for nominal variables and by Student's *t*-test or Mann–Whitney *U* test, depending on distribution, for ordinal and continuous variables. Exact tests were applied in the case of insufficient numbers. Duration of follow-up was determined using the reverse Kaplan–Meier method. Survival analysis was performed by the Kaplan–Meier method and compared by the log-rank test. Where appropriate, correction for multiple factors was performed using Cox-regression analysis. Statistical analyses were conducted using SPSS software (version 20, SPSS Inc., Chicago, Illinois, USA).

Results

Patient and tumour characteristics

During the study period, 131 female patients underwent CRS-HIPEC with curative intent for colorectal or appendiceal cancer, of whom 81 patients had ovarian metastases. Of the 81 patients, the presence of ovarian metastases of colorectal carcinoma had been histologically confirmed by prior oophorectomy in 57 cases, whereas in 24 women, oophorectomy was performed during CRS-HIPEC. Of these 24, 6 patients underwent removal of macroscopically normal ovaries, but were found to have microscopic tumour involvement, whereas the remaining 18 had grossly abnormal ovaries either on preoperative radiographic examinations or during CRS-HIPEC. The patients with microscopic ovarian metastases were excluded; therefore, 75 patients with macroscopic ovarian metastases treated with CRS-HIPEC after or during oophorectomy were included. In 14 of these patients (19%), no further peritoneal lesions were observed intra-operatively. In this same period, 50 female patients underwent CRS-HIPEC without diagnosis of ovarian metastases.

Download English Version:

<https://daneshyari.com/en/article/3985085>

Download Persian Version:

<https://daneshyari.com/article/3985085>

[Daneshyari.com](https://daneshyari.com)