



**Karolinska  
Institutet**

**Institutionen för molekylär medicin och kirurgi**

# Colorectal cancer - Aspects of multidisciplinary treatment, distant metastases and sexual function

AKADEMISK AVHANDLING

som för avläggande av medicine doktorexamen vid Karolinska  
Institutet offentligen försvaras i Bringsalen, Ersta Hotell & Konferens  
Erstagatan 1K, Stockholm

**Fredagen den 30 mars, 2012, kl. 09.00**

av

**Josefin Segelman**

Leg. läkare

*Huvudhandledare:*

Docent Anna Martling  
Karolinska Institutet  
Institutionen för molekylär medicin och kirurgi

*Bihandledare:*

Med. Dr. Angélique Flöter Rådestad  
Karolinska Institutet  
Institutionen för kvinnors och barns hälsa

Med. Dr. Mikael Machado  
Karolinska Institutet  
Institutionen för kliniska vetenskaper  
Danderyds sjukhus

Docent Torbjörn Holm  
Karolinska Institutet  
Institutionen för molekylär medicin och kirurgi

*Fakultetsopponent:*

Docent Olof Hallböök  
Linköpings Universitet  
Institutionen för klinisk och experimentell  
medicin

*Betygsnämnd:*

Docent Lars Börjesson  
Göteborgs Universitet, Sahlgrenska  
Akademin  
Institutionen för kliniska vetenskaper,  
avd för kirurgi

Docent Lena Marions  
Karolinska Institutet  
Institutionen för kvinnors och barns hälsa

Professor Peter Nygren  
Uppsala Universitet  
Institutionen för radiologi, onkologi och  
strålningsvetenskap

**Stockholm 2012**

# ABSTRACT

---

More than 6000 people in Sweden are diagnosed with colorectal cancer annually. One out of five patients already has metastases at diagnosis. However, the occurrences of metastases at specific locations, e.g. peritoneal carcinomatosis and ovarian metastases, are not well known. The development of surgical and oncological treatment strategies for primary tumours and metastatic disease has led to a need to discuss colorectal cancer patients in a multidisciplinary team (MDT). Although oncologic cure and overall survival are the main goals of treatment, quality of life and functional results are becoming increasingly important with the prolonged survival. While male sexual dysfunction after rectal cancer treatment has been well described, considerably less data have been published about the impact on women. In addition to surgical trauma, female androgen insufficiency could be a contributing factor to sexual dysfunction. Radiotherapy for rectal cancer may increase the risk of reduced ovarian androgen production, but there is scant information on this in the literature.

Papers I-III are large population-based cohort studies reporting on the effects of the development and implementation of MDT-conferences in patients with metastatic disease (Paper I) and the epidemiology of peritoneal carcinomatosis and ovarian metastases in colorectal cancer patients (Papers II-III). MDT assessment and metastasis surgery were more common in rectal cancer patients than in colon cancer patients, and the proportion increased over time. Peritoneal carcinomatosis was common, and risk factors were colon cancer, advanced tumour and nodal stage, fewer than 12 examined lymph nodes, emergency surgery, and a non-radical resection of the primary tumour. Ovarian metastases were uncommon, especially in rectal cancer patients. Paper IV assesses feasibility and internal and external validity in a prospective, observational cohort study on sexual function and androgen levels in women with rectal cancer. The methods were workable and the patients' compliance was good. Comparison of clinical data from the study cohort with that of women who were eligible for inclusion but not included revealed a selection bias. Having a partner and sexual activity was more common among women who answered all questions in the questionnaires about sexual function compared with those who did not. A power calculation based on data from the first included patients showed that a larger sample size than initially planned for was needed.

In conclusion, an increasing proportion of patients with metastatic colorectal cancer were discussed by the MDT. Predictors for and the occurrence of peritoneal carcinomatosis and ovarian metastases were defined, which may help to decide on individual treatment and follow-up regimens. The analysis of baseline data from the study on sexual function and androgen levels in women with rectal cancer indicates feasible methods but a selection bias. Inclusion of new patients in the study continues.

ISBN 978-91-7457-602-3