Available online at www.sciencedirect.com
SciVerse ScienceDirect
EJSO 39 (2013) 164–170
EJSO the Journal of Cancer Surgery
www.ejso.com

Quality of life of older rectal cancer patients is not impaired by a permanent stoma

R.G. Orsini [a,*], M.S.Y. Thong [b,c], L.V. van de Poll-Franse [b,c], G.D. Slooter [d], G.A.P. Nieuwenhuijzen [a], H.J.T. Rutten [a], I.H.J.T. de Hingh [a]

[a] Department of Surgery, Catharina Hospital, Michelangelolaan 2, 5623 EJ Eindhoven, The Netherlands
[b] CoRPS – Center of Research on Psychology in Somatic Diseases, Department of Medical Psychology, Tilburg University, Warandelaan 2, 5037 AB Tilburg, The Netherlands
[c] Comprehensive Cancer Centre South (CCCS), Eindhoven Cancer Registry, Zernikestraat 29, 5612 HZ Eindhoven, The Netherlands
[d] Department of Surgery, Máxima Medical Centre, De Run 4600, 5504 DB Veldhoven, The Netherlands

Accepted 4 October 2012
Available online 21 November 2012

Abstract

Background: The current study was undertaken to investigate the impact of a stoma on the HRQL with a special focus on age.
Materials and methods: Using the Eindhoven Cancer Registry, rectal cancer patients diagnosed between 1998 and 2007 in 4 hospitals were identified. All patients underwent TME surgery. Survivors were approached to complete the SF-36 and EORTC QLQ-C38 questionnaires. HRQL scores of the four groups, stratified by stoma status (stoma/no stoma) and age at operation (<70 and ≥70), were compared. The SF-36 and the QLQ-CR38 sexuality subscale scores of the survivors were compared with an age- and sex-matched Dutch norm population.
Results: Median follow-up of 143 patients was 3.4 years. Elderly had significantly worse physical function ($p = 0.0003$) compared to younger patients. Elderly ($p = 0.005$) and patients without a stoma ($p = 0.009$) had worse sexual functioning compared to younger patients and patients with a stoma. Older males showed more sexual dysfunction ($p = 0.01$) when compared to younger males. In comparison with the normative population, elderly with a stoma had worse physical function ($p < 0.01$), but slightly better mental health ($p < 0.05$). Elderly without a stoma had better emotional role function ($p < 0.01$), and younger patients had worse sexual functioning and enjoyment (both $p < 0.0001$).
Conclusions: Older patients with a stoma have comparable HRQL to older patients without a stoma or the normative population, indicating the feasibility of a permanent stoma for elderly patients with a low situated rectal carcinoma. The negative impact of treatment on sexual functioning as found in the current study calls for further attention to alleviate this problem in sexually active patients.

Keywords: Quality of life; Stoma; Elderly; Colo-anal anastomosis; Sexual function

Introduction

In rectal cancer surgery patients typically undergo a sphincter preserving procedure (low anterior resection: LAR) or abdominoperineal resection (APR) resulting in a permanent colostomy. The choice for one of these procedures depends on the level of the tumor, the technical feasibility to perform an anastomosis and the condition of the patient. Usually a LAR is preferred when a 1–2 cm tumor-free distal resection margin is feasible.[1,2] However, the number of postoperative problems after LAR is high, especially after neo-adjuvant radiochemotherapy with anastomotic leakage being the most feared complication due to its potentially devastating consequences.[3] Besides these traditional clinical arguments, health-related quality of life (HRQL) is increasingly accepted as an indicator for treatment efficacy.[4,5] Intuitively, it is conceivable that avoiding a permanent stoma will result in a better HRQL. However, this was challenged by two recent reviews investigating the influence of a stoma on the HRQL showing no relevant impact of a permanent stoma.[4,5]

Balancing the assumed benefits of a colo-anal anastomosis against the potential postoperative complications may be especially difficult in the elderly and frail patients. Patients with comorbidity and less physiologic reserves may not be capable to cope with complications. An alternative for these patients could be a Hartmann's procedure with

* Corresponding author. Tel.: +31 (0) 402398680; fax: +31 (0) 402440268.
E-mail address: Ricardo.orsini@catharina-ziekenhuis.nl (R.G. Orsini).

0748-7983
http://dx.doi.org/10.1016/j.ejso.2012.10.005

resection of the tumor but without restoration of bowel continuity.

Knowledge of the impact of a stoma on the HRQL may help to determine a treatment strategy for elderly patients suffering from rectal cancer that is both safe and preserves a good HRQL. Unfortunately, studies investigating the impact of treatment on the HRQL in elderly rectal cancer patients are scarce.[6,7] The current study was undertaken to investigate the impact of a stoma on the HRQL with a special focus on age.

Methods

Setting and participants

This study is part of a (long-term) cancer survivorship study of rectal cancer patients registered at the Eindhoven Cancer Registry (ECR) which collects data on all newly diagnosed cancer patients in the southern part of the Netherlands.[8] Patients diagnosed with rectal cancer in the period 1998–2007 were eligible. Details of the selection process have been reported elsewhere.[9] The survivorship study was designed to evaluate various patient-reported outcomes such as late/long-term effects, and physical and mental health status. Patient-reported outcome data was collected via the PROFILES (Patient Reported Outcomes Following Initial treatment and Long term Evaluation of Survivorship) registry.[10] Data from the PROFILES registry will be available for non-commercial scientific research, subject to study question, privacy and confidentiality restrictions, and registration (www.profilesregistry.nl).

For the current study, all rectal cancer patients (tumor $\leq$10 cm anal verge) with a completed questionnaire from 4 hospitals were selected; Catharina Hospital (Eindhoven), Elkerliek Hospital (Helmond-Deurne), Maxima Medical Center (Eindhoven-Veldhoven) and St. Anna Hospital (Geldrop), all situated in the southeast of the Netherlands. Of the 156 eligible patients, only those who underwent TME-surgery (APR or LAR) were selected. Thirteen patients were excluded for the following reasons: transanal endoscopic microsurgery ($n = 5$), distant metastasis at time of surgery ($n = 1$), received radiotherapy only ($n = 1$), lost to follow-up ($n = 6$) resulting in 143 patients.

Data collection

Eligible survivors received a letter from their treating physician explaining the purpose of the study. The letter explained that by completing and returning the enclosed questionnaire survivors consented to participate in the study and agreed to the linkage of the questionnaire data with their disease history in the ECR. Survivors were reassured that non-participation had no consequences on their follow-up care or treatment. Non-respondents were sent a reminder letter and a questionnaire after 2 months.

For this study, routinely collected data on tumor and patient characteristics by the ECR was augmented by extra clinical data extracted by one of the authors (RGO) from the patients' medical records. Extra clinical parameters extracted included distance of the tumor from the anal verge, (neo-)adjuvant treatment, surgical procedure performed, stoma characteristics, postoperative complications, tumor classification and follow-up data on recurrence (local/regional) and metastasis.

Measures

General HRQL was assessed with the validated Dutch version of the Short Form-36 (SF-36) questionnaire.[11] The eight subscales include physical functioning (assesses limitations to daily activities such as climbing stairs or lifting groceries), role limitations due to physical health (assesses limitations in work/activities due to physical health), bodily pain, general health perceptions, vitality (assesses energy and fatigue), social functioning, role limitations due to emotional health (assesses limitations in work/activities due to mental health), and mental health (assesses anxiety and depression). All scales were linearly converted to a 0-100 scale according to standard scoring procedures, with higher scores indicating better HRQL.

Disease-specific issues were assessed with the Dutch validated European Organization for Research and Treatment of Cancer (EORTC) module Quality of Life Questionnaire – Colorectal 38 (QLQ-CR38).[12] The QLQ-CR38 assess both functioning and symptom burden. Functioning consists of two scales (body image and sexual functioning), two single items (future perspective and sexual enjoyment), seven symptom scales (micturition problems, defecation problems, gastrointestinal symptoms, stoma-related problems, chemotherapy side effects, male and female sexual problems) and an item on weight loss. The items are ranged on a 4-point scale ranging from 1 (not at all) to 4 (very much). All scales were linearly converted to a 0-100 scale according to standard scoring procedures.[12] For the functioning scales and single items, higher scores indicate better functioning; for the symptom scales and single item, higher scores indicate higher symptom burden.

Self-reported comorbidity was categorized according to an adapted Self-administered Comorbidity Questionnaire (SCQ).[13] The SCQ also assesses the patient's perceived severity and burden of the comorbid condition. Socioeconomic status was determined by an indicator developed by Statistics Netherlands based on individual fiscal data from the year 2000 on the economic value of the home and household income, and provided as aggregate level for each postal code (average 17 households), which were then categorized into tertiles.[14] Body mass index (BMI), marital status, educational level, employment status and smoking were also assessed.

Normative data from the Dutch SF-36 validation study were used to compare the mean subscale scores between the treatment groups and the norm population.[11]

In 2009, CentERdata a research institute at Tilburg University, was assigned to collect normative data on sexuality