

Late Side Effects of Short-Course Preoperative Radiotherapy Combined With Total Mesorectal Excision for Rectal Cancer: Increased Bowel Dysfunction in Irradiated Patients—A Dutch Colorectal Cancer Group Study

K.C.M.J. Peeters, C.J.H. van de Velde, J.W.H. Leer, H. Martijn, J.M.C. Junggeburst, E. Klein Kranenbarg, W.H. Steup, T. Wiggers, H.J. Rutten, and C.A.M. Marijnen

From the Departments of Surgery and Clinical Oncology, Leiden University Medical Center, Leiden; Department of Radiotherapy, St. Radboud University Medical Center, Nijmegen; Departments of Radiotherapy and Surgery, Catharina Ziekenhuis, Eindhoven; Department of Surgery, Leyenburg Hospital, The Hague; and Department of Surgical Oncology, Groningen University Hospital, Groningen, the Netherlands.

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C.J.H. van de Velde was the principal investigator of this study/

Authors' disclosures of potential conflicts of interest are found at the end of this article.

Address reprint requests to C.J.H. van de Velde, MD, PhD, FRCS, FRCPS, Department of Surgery, K6-R, Leiden University Medical Center, PO Box 9600, 2300 RC Leiden, the Netherlands; e-mail: C.J.H.van_de_Velde@lumc.nl.

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A B S T R A C T

Purpose

Preoperative short-term radiotherapy improves local control in patients treated with total mesorectal excision (TME). This study was performed to assess the presence and magnitude of long-term side effects of preoperative 5 × 5 Gy radiotherapy and TME. Also, hospital treatment was recorded for diseases possibly related to late side effects of rectal cancer treatment.

Patients and Methods

Long-term morbidity was assessed in patients from the prospective randomized TME trial, which investigated the efficacy of 5 × 5 Gy before TME surgery for mobile rectal cancer. Dutch patients without recurrent disease were sent a questionnaire.

Results

Results were obtained from 597 patients, with a median follow-up of 5.1 years. Stoma function, urinary function, and hospital treatment rates did not differ significantly between the treatment arms. However, irradiated patients, compared with nonirradiated patients, reported increased rates of fecal incontinence (62% v 38%, respectively; $P < .001$), pad wearing as a result of incontinence (56% v 33%, respectively; $P < .001$), anal blood loss (11% v 3%, respectively; $P = .004$), and mucus loss (27% v 15%, respectively; $P = .005$). Satisfaction with bowel function was significantly lower and the impact of bowel dysfunction on daily activities was greater in irradiated patients compared with patients who underwent TME alone.

Conclusion

Although preoperative short-term radiotherapy for rectal cancer results in increased local control, there is more long-term bowel dysfunction in irradiated patients than in patients who undergo TME alone. Rectal cancer patients should be informed on late morbidity of both radiotherapy and TME. Future strategies should be aimed at selecting patients for radiotherapy who are at high risk for local failure.

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INTRODUCTION

Surgery is the key to cure for patients with rectal cancer. In the past, local recurrence rates after conventional surgery averaged 30% and varied considerably between institutions from 15% to 45%.¹⁻³ The acknowledgment of the

importance of circumferential lateral spread in the occurrence of local failure⁴ has led to the introduction of total mesorectal excision (TME).⁵ This surgical technique ensures resection of the complete mesorectum in contrast to conventional blunt dissection, which is known to leave behind fragments of