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


ABSTRACT

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% vs 38%, respectively; P < .001), pad wearing as a result of incontinence (56% vs 33%, respectively; P < .001), anal blood loss (11% vs 3%, respectively; P = .004), and mucus loss (27% vs 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...