

New method reduces adverse effects of rectal cancer treatment

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A new study from Karolinska Institutet shows that short-course preoperative radiotherapy combined with delayed surgery reduces the adverse side-effects of rectal cancer surgery without compromising its efficacy. The results are presented in the journal *The Lancet Oncology*.

Rectal cancer affects some 2,000 men and women in Sweden every year. Preoperative [radiotherapy](#) was gradually introduced in the early 1990s, with a consequent improvement in prognosis for people with rectal cancer and reduction in the risk of local recurrence.

"Back then we showed that preoperative radiotherapy reduces the risk of local recurrence by over 50 per cent for patients with rectal cancer," says principal investigator Anna Martling, senior consultant surgeon and professor at Karolinska Institutet's Department of Molecular Medicine and Surgery. "Thanks to our results, radiotherapy is recommended to many rectal [cancer patients](#)."

However, radiotherapy can cause adverse reactions and the optimal radiotherapeutic method and the interval between it and the ensuing surgery have been mooted.

The study now presented in *The Lancet Oncology* is based on the claim that the adverse effects of rectal cancer treatment can be reduced by administering more but lower doses of radiation for a longer time, or by increasing the interval between radiotherapy and surgery. These hypotheses have now been tested in a study in which rectal cancer

patients were randomly assigned to three different treatment arms:

- Standard therapy, i.e. short-course (5×5 Gy) radiotherapy with direct surgery within a week.
- Delayed surgery with short-course (5×5 Gy) radiotherapy followed by surgery after 4-8 weeks.
- Delayed surgery with long-course (25×2 Gy) radiotherapy followed by surgery after 4-8 weeks.

The results of the study show that patients with delayed [surgery](#) develop fewer complications with equally good oncological outcomes. It also showed that there is no difference between long-course and short-course radiotherapy other than that the former considerably lengthens the time for treatment.

"The results of the study will give rise to improved therapeutic strategies, fewer complications with a sustained low incidence of local recurrence, and better survival rates for [rectal cancer](#) patients," says Professor Martling. "The results can now be immediately put to clinical use to the considerable benefit of the patients."

More information: Johan Erlandsson et al. Optimal fractionation of preoperative radiotherapy and timing to surgery for rectal cancer (Stockholm III): a multicentre, randomised, non-blinded, phase 3, non-inferiority trial, *The Lancet Oncology* (2017). [DOI: 10.1016/S1470-2045\(17\)30086-4](#)

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