

### Conclusion

Both clinical and endoscopic proctitis showed a correlation with brachytherapy CTV dose. A higher CTV D90 was associated with an increased risk of severe late proctitis. A large CTV volume and D2cc were associated with an increased risk of developing an ulcerative lesion at the site of the tumor.

### OC-0281 Time interval between chemoradiation and surgery and postoperative complications in rectal cancer

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### Purpose or Objective

A prolonged time interval between neoadjuvant chemoradiation and surgery in locally advanced rectal cancer allows more downsizing of the tumour and increases the probability of complete tumor response and organ sparing treatment. A prolonged time interval may at the same time lead to more fibrosis in the operation field and increase the risk of surgical complications. This study examines the association of a prolonged time interval between chemoradiation and surgery and the risk of surgery-related complications in rectal cancer patients.

### Material and Methods

Within the Dutch Surgical Colorectal Audit cohort, we selected rectal cancer patients treated with chemoradiation and surgery between 2007 and 2017. Time interval was categorized into 6-7 weeks, 8-9 weeks, 10-11 weeks, 12-13 weeks, and 14-20 weeks between completion of chemoradiation and surgery. Outcomes of interest were intraoperative, postoperative (all), and postoperative surgical complications within 30 days following resection. Multivariable logistic regression was used to test the association between groups of time interval and surgery-related complications adjusted for age, sex, comorbidity, previous abdominal surgery, mean body mass index, ASA classification, clinical tumour and nodal stage, tumour location, surgical approach, surgical procedure, extended tumour (T4) resection and whether a stoma or anastomosis was received. The 8-9 weeks group was used as reference in the models.

### Results

In total, 5740 patients were included of whom 874 (15.2%) received surgery after 6-7 weeks, 1619 (28.2%) after 8-9 weeks, 1611 (28.1%) after 10-11 weeks, 984 (17.1%) after 12-13 weeks and 652 (11.4%) after 14-20 weeks. The groups were similar in age, sex and mean body mass index. Patients with a history of abdominal surgery, a high clinical tumour and nodal stage (T4/N2), a low rectal tumour, and a high ASA classification (ASA III) tended to have a longer time interval. Rate of intraoperative complications increased from 1.8% to 6.1% in the shortest (6-7 weeks) to the longest (14-20 weeks) interval group, postoperative complications increased from 32.6% to 42.2% and postoperative surgical complications from 15.1% to 27.9% (Table). Adjusted for all potential confounders, time interval was not significantly associated with a higher risk of intraoperative, postoperative and postoperative surgical complications.

Intraoperative complications			
Time interval	N (%)	OR (95% CI)	p-value
6-7 weeks (N=874)	16 (1.8)	0.6 (0.3-1.0)	0.225
8-9 weeks (N=1619)	66 (4.1)	Ref.	
10-11 weeks (N=1611)	82 (5.1)	1.1 (0.8-1.6)	0.647
12-13 weeks (N=984)	58 (5.9)	1.1 (0.8-1.7)	0.515
14-20 weeks (N=652)	40 (6.1)	1.1 (0.7-1.7)	0.808
Postoperative complications			
Time interval	N (%)	OR (95% CI)	p-value
6-7 weeks (N=874)	285 (32.6)	0.9 (0.7-1.1)	0.211
8-9 weeks (N=1619)	586 (36.2)	Ref.	
10-11 weeks (N=1611)	574 (35.6)	0.7 (0.8-1.1)	0.748
12-13 weeks (N=984)	385 (39.1)	1.1 (0.9-1.4)	0.237
14-20 weeks (N=652)	275 (42.2)	1.2 (1.0-1.4)	0.124
Postoperative surgical complications			
Time interval	N (%)	OR (95% CI)	p-value
6-7 weeks (N=874)	132 (15.1)	0.9 (0.6-1.3)	0.567
8-9 weeks (N=1619)	317 (19.6)	Ref.	
10-11 weeks (N=1611)	337 (20.9)	1.1 (0.8-1.4)	0.597
12-13 weeks (N=984)	241 (24.5)	1.1 (0.8-1.5)	0.491
14-20 weeks (N=652)	182 (27.9)	1.2 (0.8-1.6)	0.417

### Conclusion

Compared to a time interval of 8 to 9 weeks between completion of chemoradiation and surgery, prolonging the interval does not significantly increase the risk of intraoperative and postoperative complications, nor postoperative surgical complications. These findings suggest that a prolonged time interval, to increase the chance on a complete tumour response, is safe in terms of surgery-related complications.

### OC-0282 Complete response after short-course radiotherapy versus chemoradiation in advanced rectal cancer

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### Purpose or Objective

Older or frail patients with locally advanced rectal cancer (LARC), who are not fit enough to receive neoadjuvant chemoradiation (CRT), are often offered short-course radiotherapy with delayed surgery (SCRT-delay). They thus receive a lower total radiation dose, no chemotherapy and a shorter treatment period. These patients may therefore have a lower chance on a complete response and, as such, on organ-sparing approaches. The purpose of this study was to compare the pathological complete response (pCR) rate between neoadjuvant CRT and SCRT-delay in patients with LARC.

### Material and Methods

In the population-based Netherlands Cancer Registry, all stage III rectal cancer patients, diagnosed between 2008 and 2014, who underwent CRT or SCRT-delay and surgery were selected. Delayed time until surgery was defined as a minimum of four weeks between completion of neoadjuvant therapy and date of surgery. pCR (ypT0N0) was compared between the treatment groups using, adjusting for other determinants of pCR by multivariable analyses.

### Results

386 patients (9.6%) underwent SCRT-delay and 3,659 patients (90.4%) underwent CRT. The pCR-rate in the SCRT-delay group was significantly lower compared to the CRT-group (6.4% vs. 16.2%, p<0.001), also when adjusted for clinical tumor stage, clinical nodal stage and time interval to surgery (Odds ratio 0.3, 95%CI 0.2-0.5, p<0.001). Also, the SCRT-delay group achieved less near-pCR (ypT0-1N0), tumor and nodal downstaging and had a higher positive lymph-node ratio.