



Organ sparing radiotherapy in rectal cancer: definitive chemoradiation is a safe and valid option.

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Introduction:

Neoadjuvant chemoradiation (NACRT) is recommended when treating locally advanced rectal cancer to improve likelihood of complete resection (1). In patients achieving pathological complete response (pCR) after NACRT and surgery, reduced loco-regional recurrence rates have been observed (2). Extrapolating from this, patients (with low rectal cancers) achieving clinical complete response (cCR) after NACRT can be entered into a close surveillance protocol instead of having a major operation (APR) and permanent stoma (2). There are a number of patients who employ this tactic if they are completely opposed to surgery. We retrospectively and prospectively analysed the clinical course of such a series of patients for outcomes. Our primary endpoint was progression free survival.

Methodology:

Patients with clinical/radiological complete response and/or negative random biopsies at endoscopy following NACRT were identified via clinical records spanning the dates October 2009 and January 2013. The intended surveillance protocol is given below.

	Frequency of MRI scans (months)	Frequency of CT scans (months)	Frequency of EUA / Flexi Sig (months)	Frequency of CEA measurements (months)
Year 1	3	6	3	3
Year 2	3	6	3	3
Year 3	6	12	6	3
Year 4	6	12	6	6
Year 5	6	12	6	6

Survival was calculated using IBM-SPSS Statistics version 19.

Results:

21 patients were highlighted as having a complete clinical response to chemoradiotherapy after random biopsies or follow up MRI scanning.

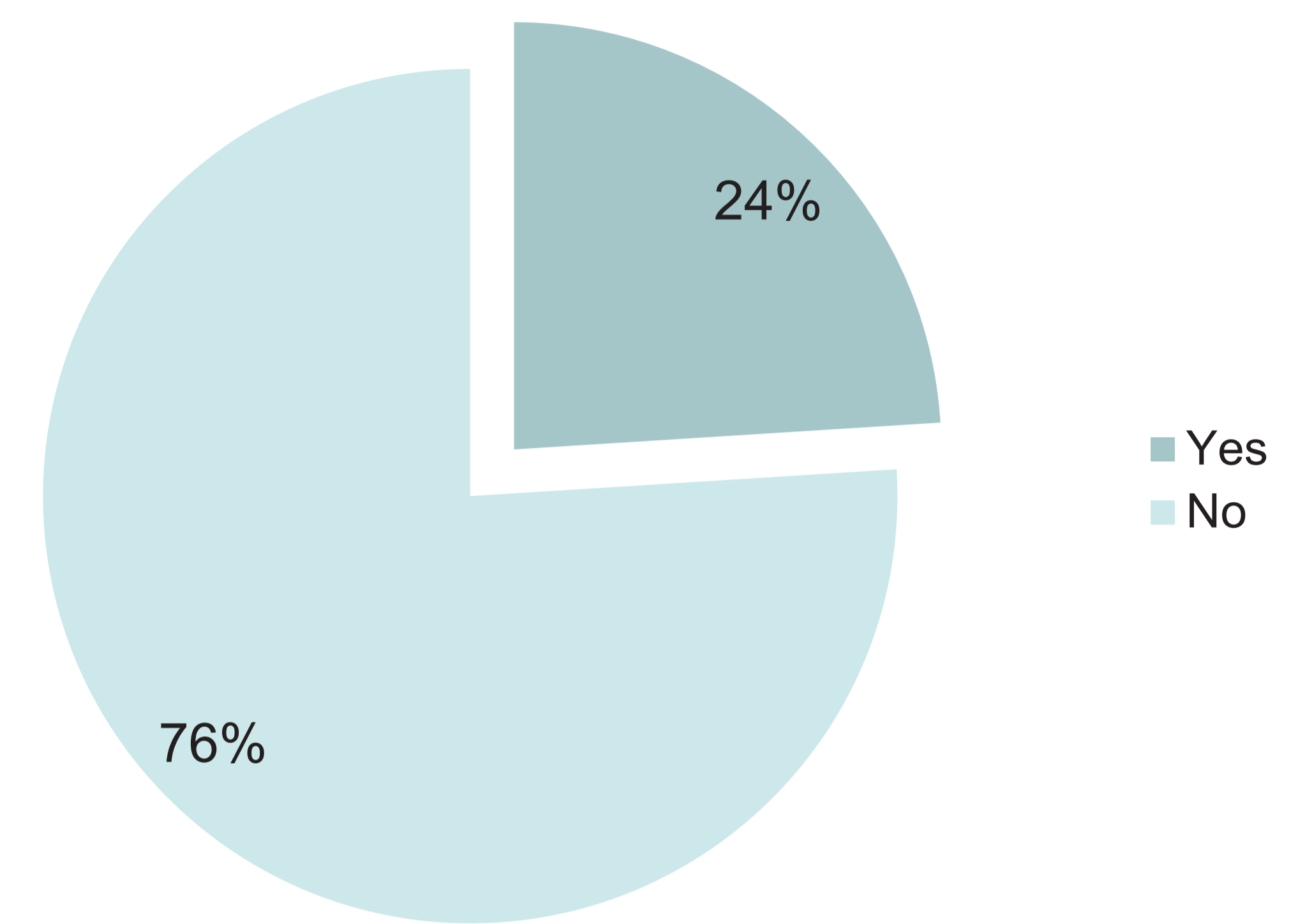
- All PS 0-2
- Mean age of 69 years
- 72% (15) stage 3a/3b disease, remainder stage 1-2
- Circumferential resection margin involved in 15%

Median radiotherapy dose was 50.4Gy per fraction(##) over 28 # (range 37.8Gy/21# - 54Gy/30#). 2 patients had contact radiotherapy (papillon) as boost to doses of 60Gy in 2# and 90Gy in 3#. One stopped treatment early due to toxicity. 18 had concurrent chemotherapy with flouropyrimidines the remainder were deemed unfit for concurrent chemotherapy.

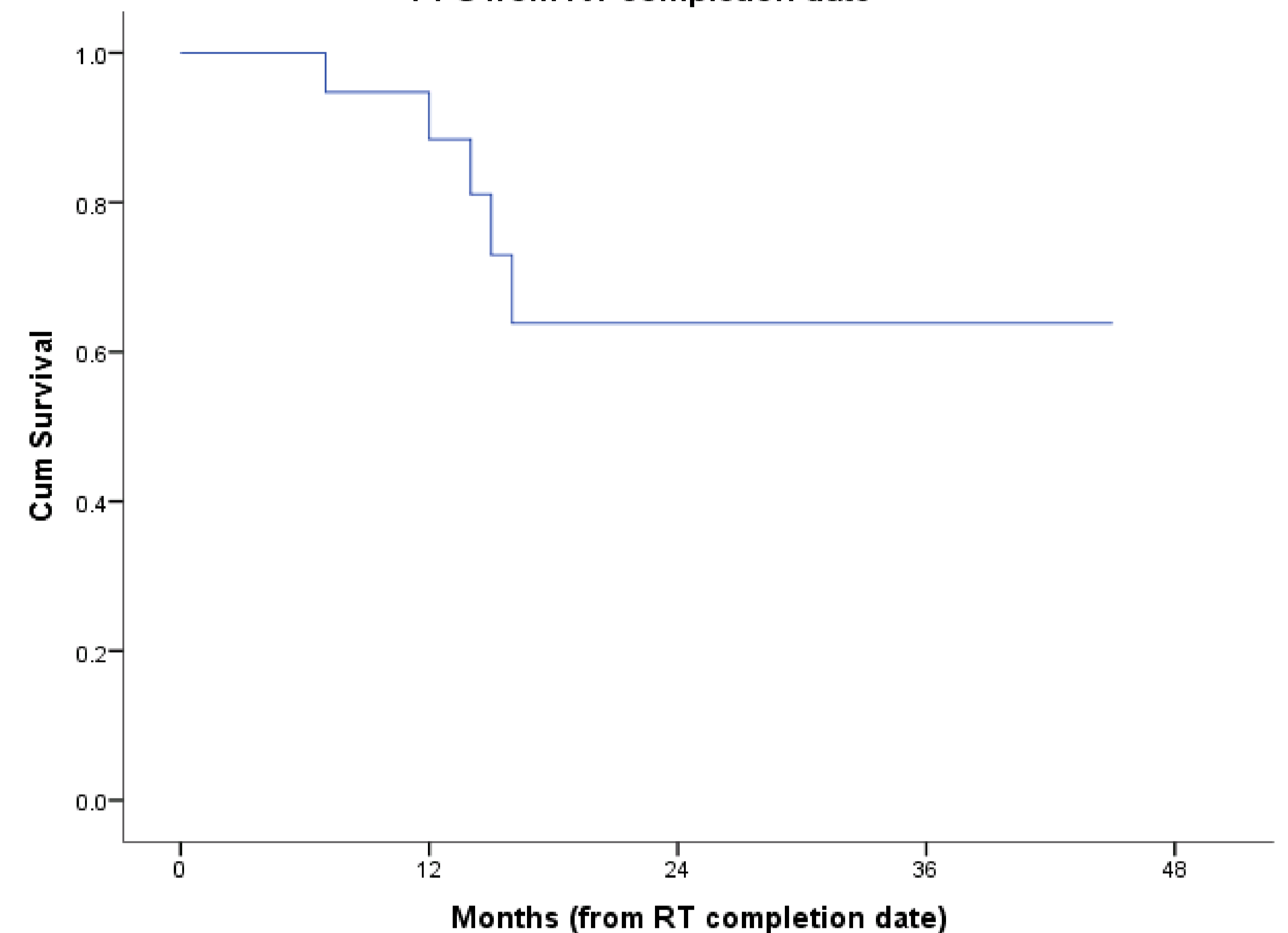
- All patients were alive at the end of data collection
- Median follow up 12 months (range 1.8-50 months)
- **Complete clinical response (cCR) rate was 18%**
- **18 month progression free survival was 64%**
- Nil achieved follow up goals

24% (5) recurred over the 4 year time period. All recurred locally with no distant metastases at 4,5,6, 18 and 23 months. At recurrence 2 patients were stage 2 on MRI imaging and 3 patients were radiologically clear but had biopsy proven recurrent disease on endoscopy. Salvage surgery was successfully completed in 3 patients with R0 resections. 2 patients underwent HDR brachytherapy to the rectal recurrence 7.5Gy and 6Gy in a single fraction (resp) with complete clinical response. Therefore all patients adequately salvaged.

Local Recurrence



PFS from RT completion date



Discussion:

•In select patients, opting for a watch and wait strategy is a safe & feasible option, promoting organ preservation at no detriment to overall survival. This could be suggested in those with pathological CR on random biopsy at post treatment endoscopy and CR on follow up MRI scanning.

•Early recognition of local relapse is essential in this group of patients in order to offer salvage curative treatment options. To recognise early recurrences, the defined follow up protocol should be intensive but this is difficult to achieve in practice due to limited resources, human error and poor documentation/attendance.

•In our study, despite not meeting the intended follow up schedule, **all relapses occurred within the first 2 years but were successfully salvaged**. Our local recurrence rate is similar to the literature examining NACRT and surgery (4). The follow-up in our series is still short and so these patients should have long term surveillance.

•It is unclear whether adding in brachytherapy/contact radiotherapy will further reduce local recurrences in this group.

Action Plan:

- Consider entering patients onto a prospective database ensure they are meeting follow up requirements
- Continue active surveillance for 8 to 10 years for late relapses.
- Extend data collection over longer period of time and re-audit results.

References:

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