

Long-term outcomes among patients who achieve complete or near-complete responses after the induction phase of bladder preserving combined modality therapy for muscle-invasive bladder cancer: A pooled analysis of RTOG 9906 and 0233.

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ABSTRACT

Background: Bladder preserving combined-modality therapy for muscle-invasive bladder cancer (MIBC) includes transurethral resection and concurrent chemo-RT given in two phases. After the induction phase with chemo-RT to 40 Gy the tumor response is assessed by cystoscopic biopsies and urine cytology. Early salvage cystectomy is promptly offered in case of persistent disease, otherwise patients proceed to consolidation chemo-RT to 64 Gy. The two most recent RTOG protocols 9906 and 0233 allowed patients with near-complete response (Ta or Tis) after the induction phase to proceed to consolidation.

Methods: We performed a pooled analysis of 119 eligible patients with MIBC enrolled on RTOG trials 9906 and 0233, who were classified as having a complete (T0) or near-complete (Ta or Tis) response after induction chemo-RT and completed consolidation with a total RT dose of at least 60 Gy. We estimated bladder recurrence, salvage cystectomy rates and disease-specific survival by the cumulative incidence method and bladder-intact and overall survivals by the Kaplan-Meier method.

Results: Among 119 eligible patients, 101 (85%) achieved T0 and 18 (15%) achieved Ta or Tis after induction chemo-RT and proceeded to consolidation. After a median follow-up of 5.9 years, 36/101 (36%) T0 patients vs. 5/18 (28%) Ta or Tis patients experienced bladder recurrence (p=0.52). Fourteen patients among complete responders eventually required late salvage cystectomy for tumor recurrence, in comparison to one patient among near-complete responders (p=0.47). Disease-specific, bladder-intact and overall survivals were not significantly different between T0 and Ta/Tis cases.

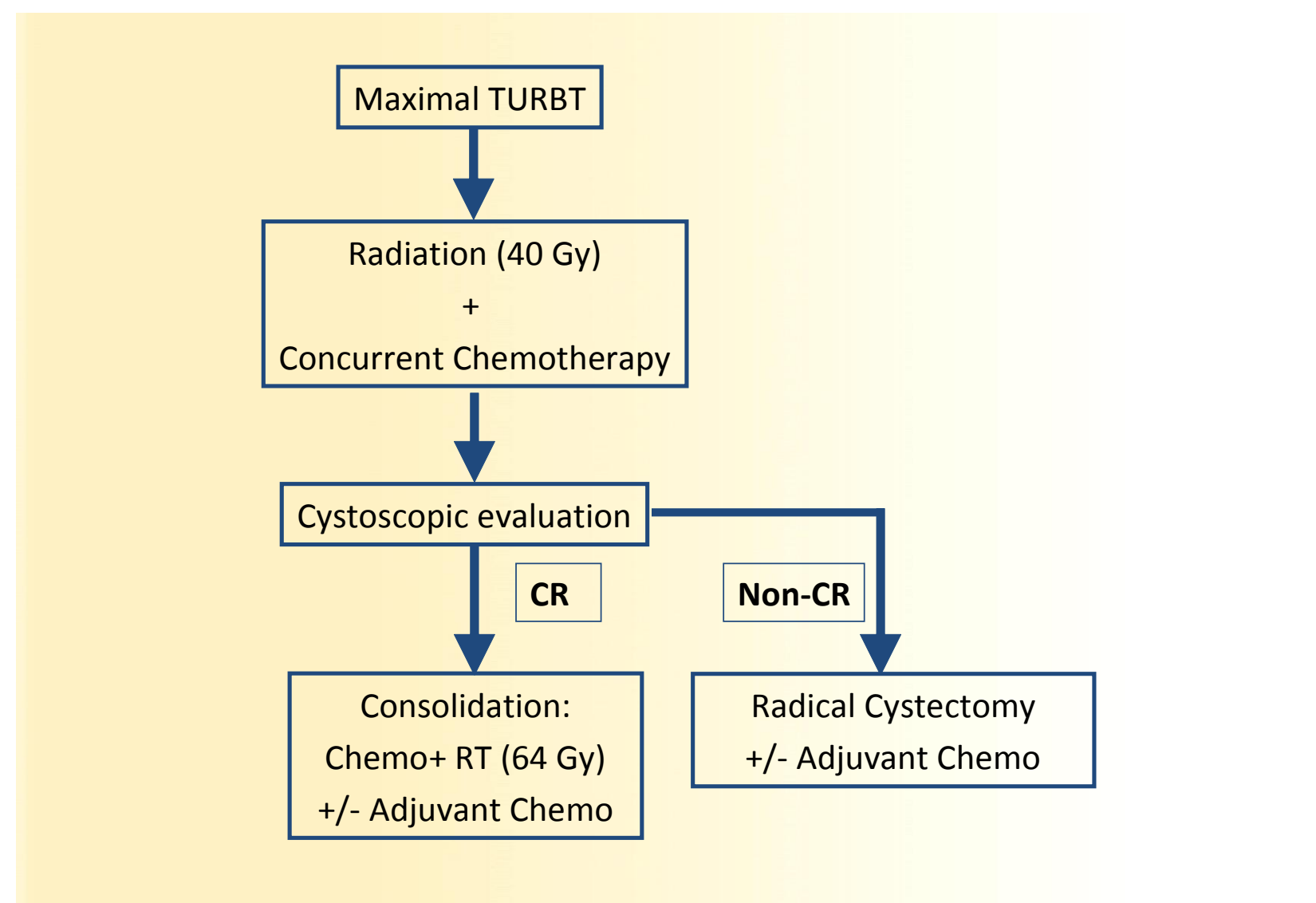
Conclusions: There is no apparent difference in the bladder recurrence and salvage cystectomy rates between complete and near-complete responders as judged at the time of cystoscopic evaluation after induction phase of bladder preserving CMT. It is appropriate to recommend that patients with Ta or Tis after induction chemo-RT continue with bladder-sparing therapy.

ACKNOWLEDGMENTS

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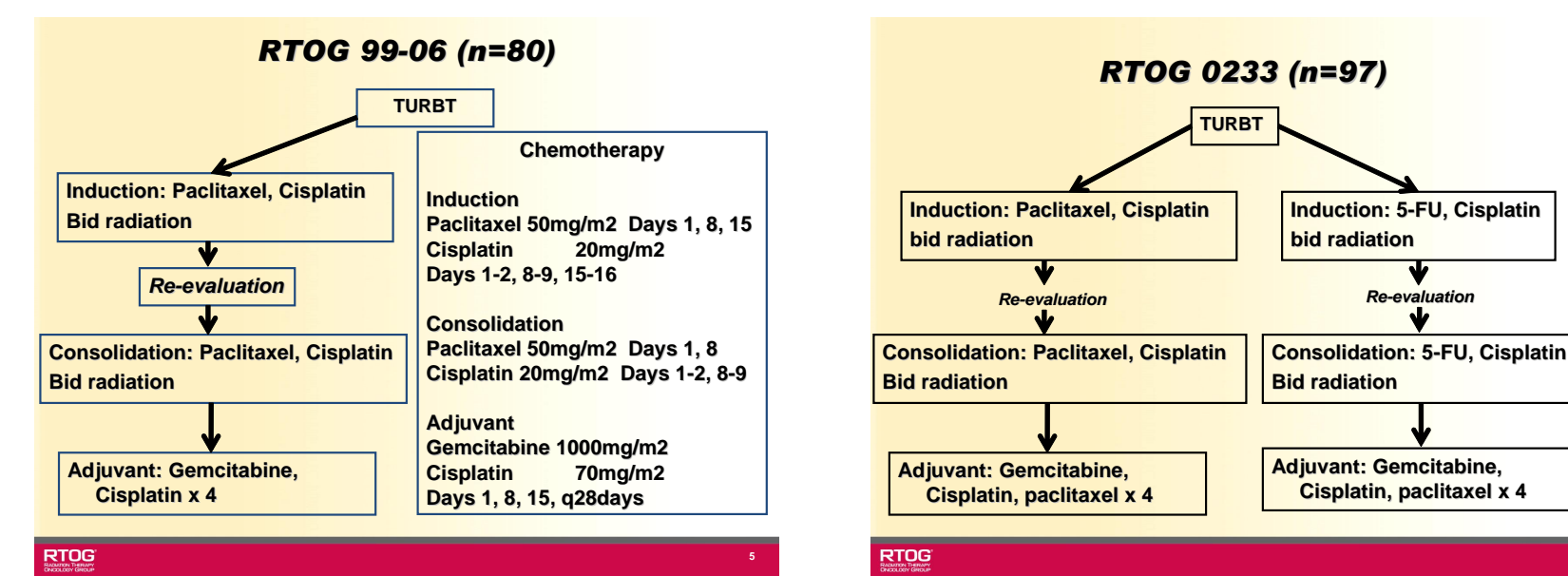
OBJECTIVES

- Determine if patients who achieve complete response (T0) after the induction phase of bladder preserving combined modality therapy have different outcomes than patients who achieve near-complete response (Ta or Tis)



RTOG Oncology Group 4

STUDY DESIGN



PATIENTS

119 eligible patients:
54 on RTOG 99-06
65 on RTOG 0233

After induction chemo-RT:
101 achieved T0
18 achieved Ta or Tis

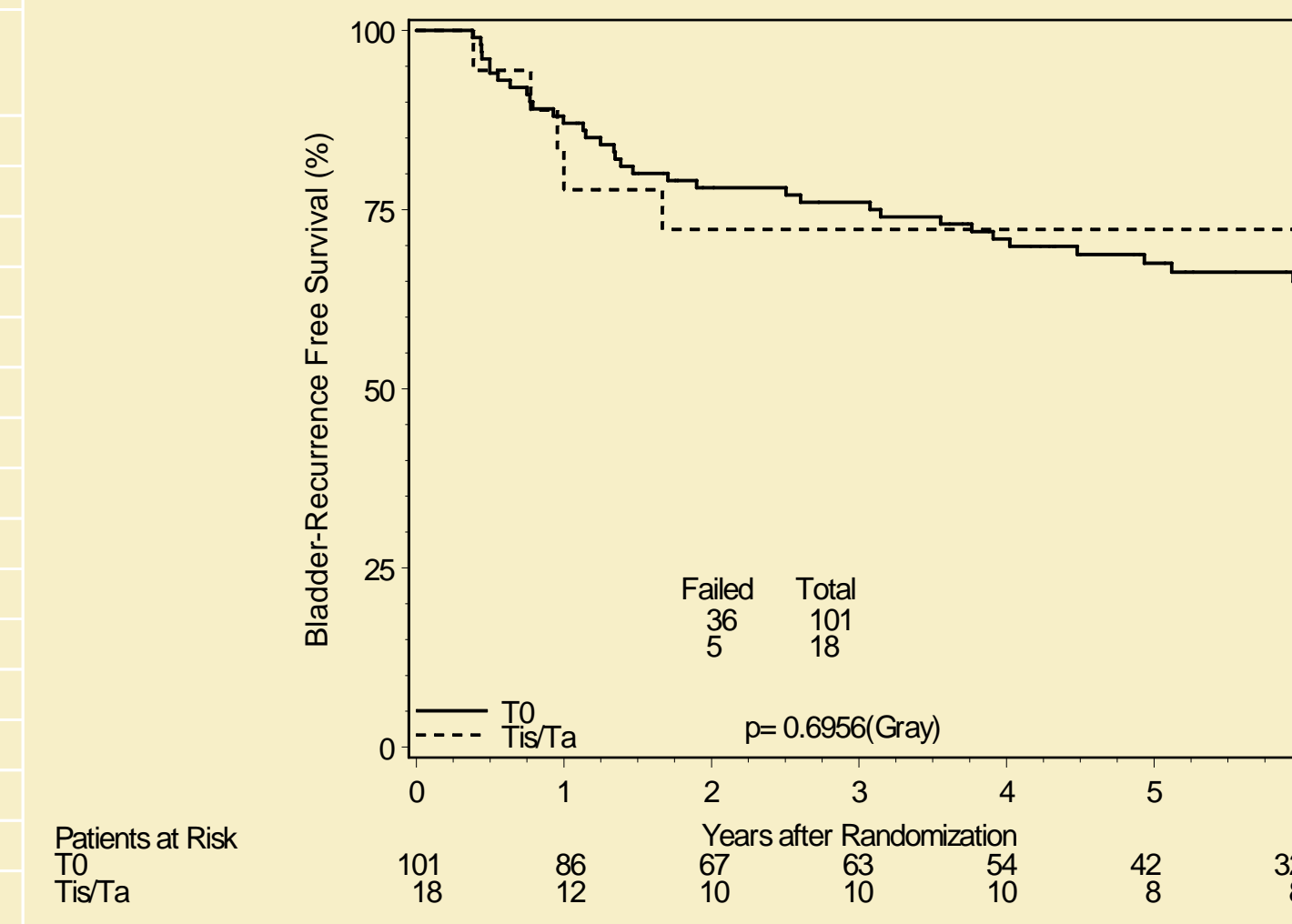
RESULTS

Baseline characteristics

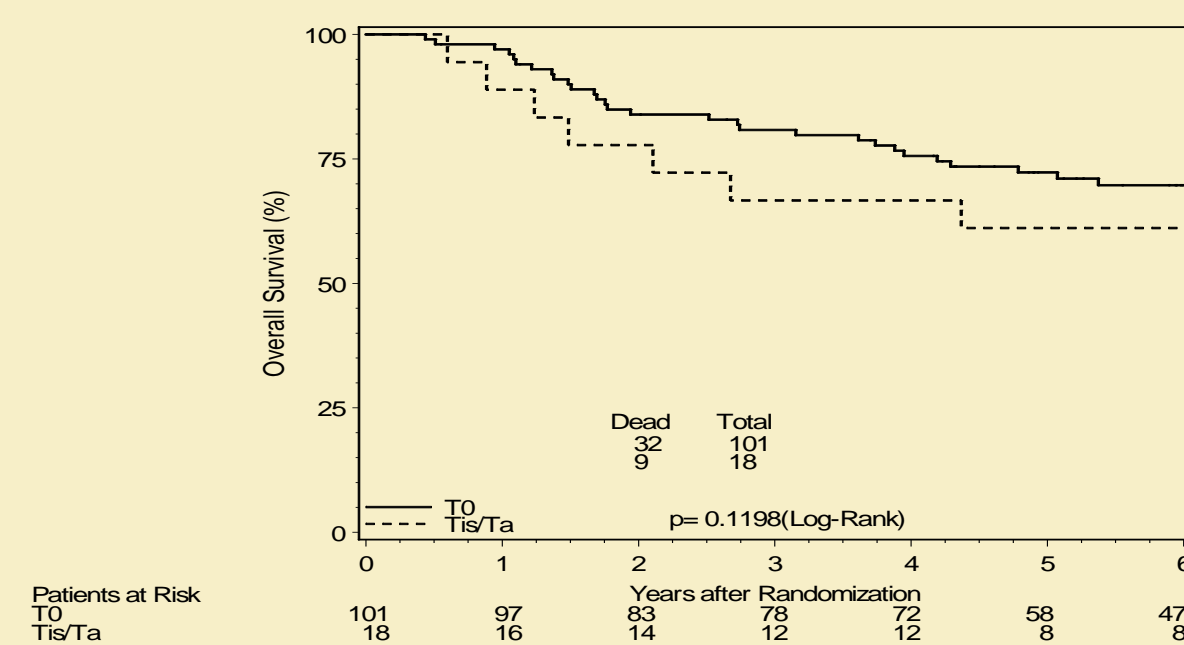
| | T0 (n=101) | Tis/Ta (n=18) | p-value* |
|---------------------------------|-------------|---------------|----------|
| Age (years) | | | |
| Median | 65 | 70 | |
| Min - Max | 41 - 90 | 36 - 82 | |
| Q1 - Q3 | 59 - 71 | 60 - 78 | |
| Gender | | | 1.0 |
| Male | 89 (88.1%) | 16 (88.9%) | |
| Female | 12 (11.9%) | 2 (11.1%) | |
| Zubrod Performance Score | | | 0.29 |
| 0 | 96 (95.0%) | 16 (88.9%) | |
| 1 | 5 (5.0%) | 2 (11.1%) | |
| T stage | | | 1.0 |
| T2 | 94 (93.1%) | 17 (94.4%) | |
| T3-T4 | 7 (6.9%) | 1 (5.6%) | |

Q1 = first quartile; Q3 = third quartile.
*Fisher's exact test is used

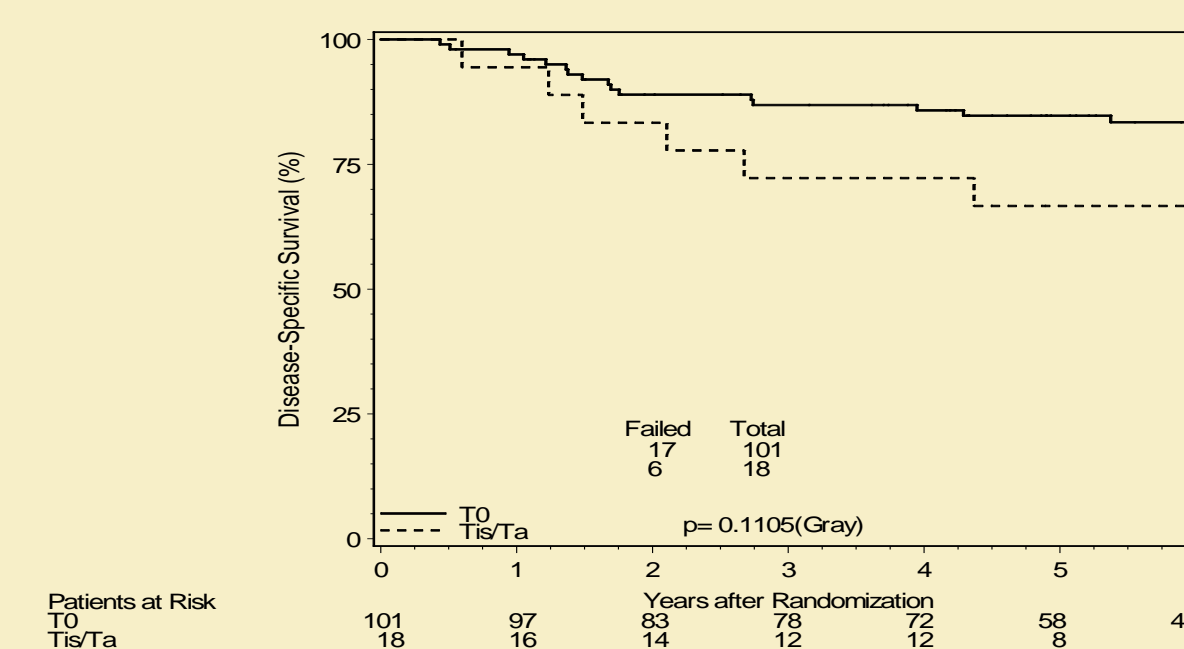
Bladder Recurrence Free Survival



Overall Survival



Disease-Specific Survival



Outcomes

| Outcome at 5 yrs | T0 | Ta/Tis | P-value |
|----------------------------------|-----|--------|---------|
| Overall Survival | 72% | 61% | 0.12 |
| Disease-Specific Survival | 85% | 67% | 0.11 |
| Bladder Recurrence Free Survival | 68% | 72% | 0.70 |

Bladder Recurrence

| Any Bladder Recurrence | T0 (n=101) | Tis/Ta (n=18) | P-value |
|------------------------|------------|---------------|---------|
| No | 65 (64.4%) | 13 (72.2%) | 0.52 |
| Yes | 36 (35.6%) | 5 (27.8%) | |

| Invasive Bladder Recurrence | T0 (n=36) | Tis/Ta (n=5) | P-value |
|-----------------------------|-------------|--------------|---------|
| Yes | 13 (36.1%) | 1 (20.0%) | 0.53 |
| No | 19 (52.8%) | 4 (80.0%) | |

CONCLUSIONS

There is no apparent difference in the bladder recurrence and salvage cystectomy rates between complete (T0) and near-complete (Ta or Tis) responders as judged at the time of cystoscopic evaluation after induction phase of bladder preserving combined modality therapy.

It is appropriate to recommend that patients with Ta or Tis after induction chemo-RT continue with bladder-sparing therapy.

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