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RESPECT FOR LIFE

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Abs#819

Long-term Outcomes of Neoadjuvant Chemotherapy (NAC) before Bladder-Sparing Chemoradiotherapy (CRT) for Patients with Nonmetastatic, Muscle-invasive Bladder Cancer (MIBC)

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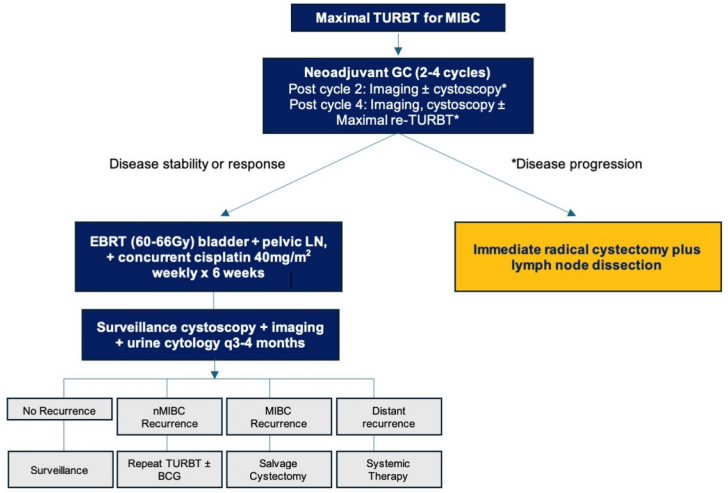
Background

- Neoadjuvant, cisplatin-based combination chemotherapy followed by concurrent chemoradiation is an emerging approach in carefully selected MIBC patients who opt for bladder-sparing.
- Long-term data on its efficacy & tolerability is lacking.
- We evaluated long-term outcomes in patients with MIBC treated with this approach.

Methods

- A retrospective chart review was performed on 56 patients treated with NAC+CRT, 2008-2017 at the Princess Margaret and Durham Regional Cancer Centers.
- Primary outcomes: 5-year disease free survival (DFS), bladder intact disease-free survival (BI-DFS) & overall survival (OS).



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Patient & Treatment Characteristics

Table 1 - Demographics	
Age (years)	72 [45-87]
Male	44 (79)
Smoking	
Never smoker	14 (25)
Current smoker	11 (20)
Ex smoker	31 (55)
ECOG PS	
0	35 (66)
1	17 (32)
2	1 (2)
CrCl (mL/min)	59 [18-137]
Hydronephrosis	14 (25)
Tumor size (cm)	4.1 [1.2-12]
Clinical Stage	
II	33 (59)
III	19 (34)
IV	4 (7)
Histology	
Pure Urothelial Carcinoma (UC)	35 (63)
UC with squamous	13 (23)
UC with plasmacytoid variant	7 (13)
UC with micropapillary variant	1 (2)
Carcinoma-in-Situ	17 (30)
LVI	10 (18)

Table 3: Recurrences	
Total Recurrences	23 (41)
Local recurrence	11 (20)
Required Cystectomy	8 (14)
Distant recurrence	12 (21)

Table 2 - Treatment	
TURBT	
Initial Max TURBT	38 (68)
NAC	
NAC Regimen	
GC q 21 days	19 (34)
GC split q 21 days	32 (57)
Other	5 (9)
No. of NAC cycles	
2	3 (5)
3	18 (32)
4	35 (63)
Completed planned NAC	53 (95)
NAC Grade 3/4 Toxicity	12 (21)
Neutropenia	6 (11)
Thrombocytopenia	2 (4)
Infection	2 (4)
Anemia	1 (2)
Other	1 (2)
NAC Dose Reduction	31 (55)
Median dose ↓ (%)	25 [15- 50]
NAC Dose Delay	22 (39)
Concurrent Chemoradiation	
Reason for TMT	
Patient preference	33 (59)
Comorbidities RC	20 (36)
Both	2 (4)
Planned RT Dose	
< 60 Gy	5 (9)
>= 60 Gy	51 (91)
Completed Planned RT	56 (100)
Completed ≥ 60% planned concurrent chemotherapy	49 (86)

Results

- Median follow up was 96 months (10-149).
- Median DFS was 56.6 months & 5-year DFS was 49.2%.
- Median BI-DFS was 45.6 months & 5-year BI-DFS was 47.6%.
- Median OS was 105.0 months with a 5-year OS rate of 62.2%.

Figure 1- KM Curve for DFS

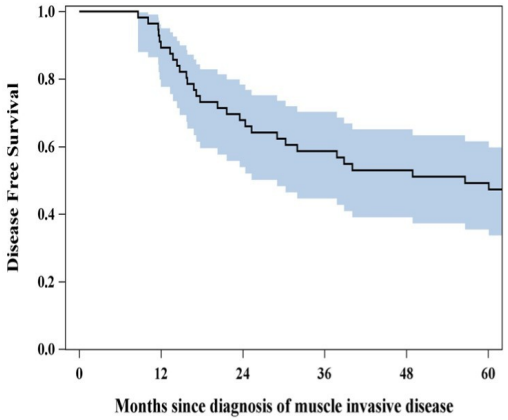


Figure 2 - KM Curve for BI- DFS

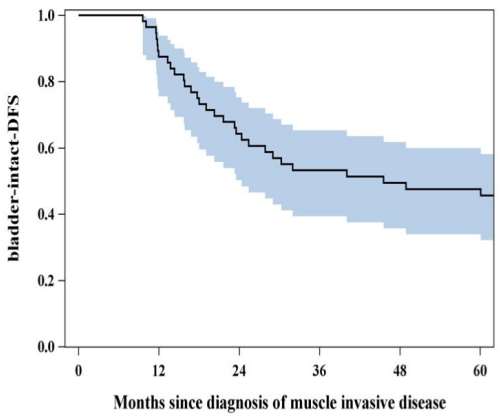
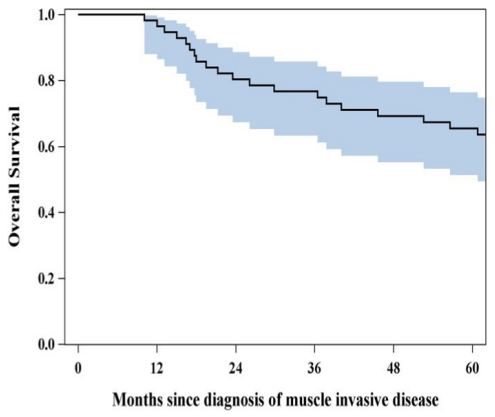


Figure 3 - KM Curve for OS



Abbreviations: KM= + Kaplan Meier

Acknowledgements

Preliminary Publication: *Jiang, D.M, Clinical Genitourinary Cancer 2019*

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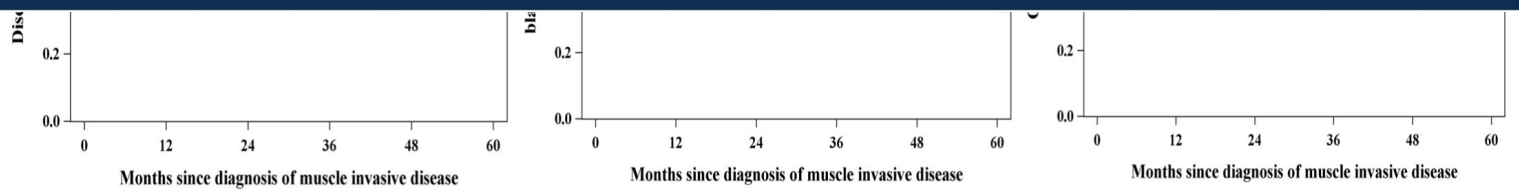
Figure 1- KM Curve for

Figure 2 - KM Curve for

Figure 3 - KM Curve for

NAC + Concurrent Chemoradiotherapy is a safe & effective bladder-sparing approach with encouraging long-term outcomes in carefully selected patients with MIBC



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Efficacy of Neoadjuvant/Induction (NAC) Chemotherapy in Nonmetastatic Muscle-Invasive Bladder Cancer Treated with Chemoradiotherapy (CRT): A Systematic Review and Meta-Analysis

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Background

- Neoadjuvant chemotherapy (NAC) followed by radical cystectomy (RC) is the established standard of care for nonmetastatic muscle-invasive bladder cancer (MIBC).
- Chemoradiotherapy (CRT) is an acceptable treatment alternative for MIBC.
- While NAC has proven beneficial before RC, its value prior to CRT remains uncertain.
- **This systematic review and meta-analysis aimed to evaluate the impact of NAC on outcomes of patients undergoing CRT for bladder preservation.**

Methods

- PROSPERO registration (CRD42024590258).
- Systematic search of PubMed, Embase and Cochrane databases.
- **Inclusion criteria: (i) studies comparing NAC plus CRT versus CRT alone in MIBC; (ii) both randomized controlled trials (RCTs) and observational studies.**
- Exclusion criteria: Studies with overlapping populations or non-English publications.
- Statistical analyses were performed using random-effects models in Review Manager 5.4.1.
- Heterogeneity was assessed with I^2 statistics.

Results

- **3.354 patients from 4 observational studies.**
- 656 (19.5%) patients received NAC with platinum-based chemotherapy.
- Follow-up time ranged from 15.9 to 74.4 months.
- **No significant difference in overall survival (OS) (HR = 0.99, 95% CI 0.87–1.12, p = 0.87, I^2 = 0%). Figure 1.**
- **No difference for disease-free survival (DFS) (HR = 1.10, 95% CI 0.76–1.60, p = 0.61, I^2 = 0%). Figure 2.**
- **High risk of bias by ROBINS-I tool.**
- **Very low certainty of the evidence by GRADE.**

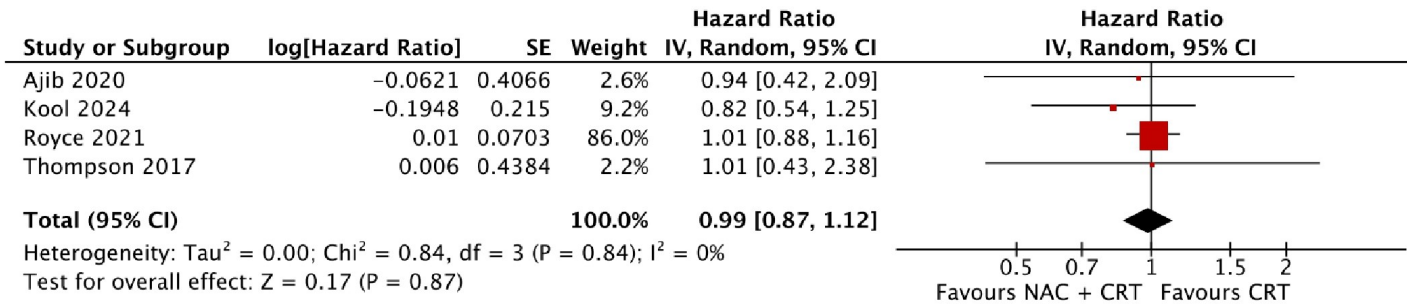

Figure 1: Forest plot for OS

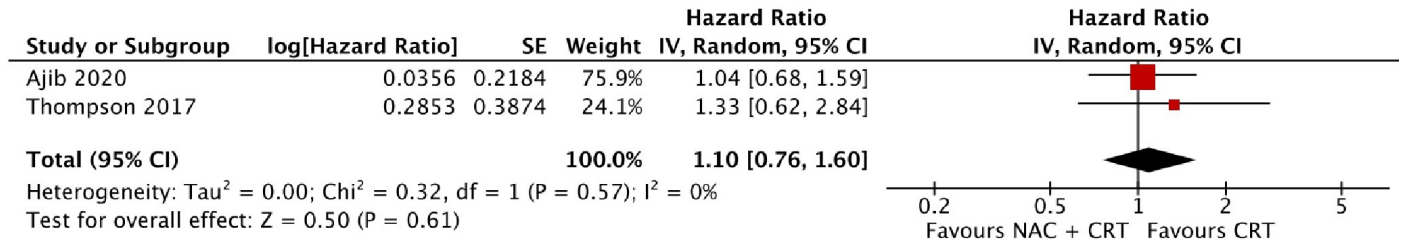

Figure 2: Forest plot for DFS

Results

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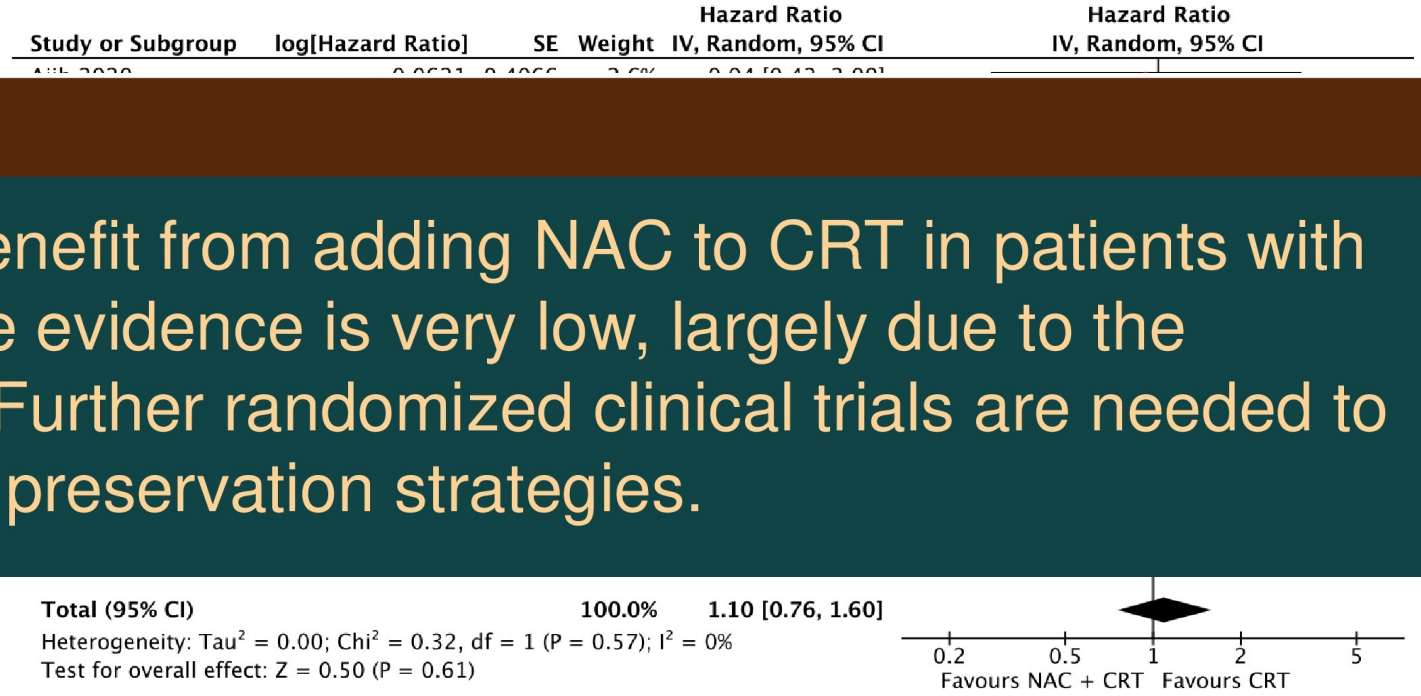

Figure 2: Forest plot for DFS

(DFS) (HR = 1.10; 95% CI 0.76–1.60; p = 0.61, I^2 = 0%). Figure 2.

- **High risk of bias by ROBINS-I tool.**
- **Very low certainty of the evidence by GRADE.**

Conclusion

Our analysis found no survival benefit from adding NAC to CRT in patients with MIBC. However, the quality of the evidence is very low, largely due to the retrospective nature of the data. Further randomized clinical trials are needed to clarify the role of NAC in bladder preservation strategies.

Thank you