



Improved Distant Metastasis-Free Survival with Induction Chemotherapy followed by Surgery in Patients with HPV-Associated Oropharynx Cancer



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Introduction

- A leading cause of death in patients with Human Papilloma Virus (HPV) associated oropharynx cancer (OPC) is distant metastasis.
- Standard of care:** Concurrent chemoradiation therapy (CCRT).
- New treatment paradigm:** Neoadjuvant chemotherapy followed by transoral robotic surgery (NAC+S), Radiation reserved for salvage
- NAC+S combines systemic escalation to address potential distant micrometastasis and tumor downstaging allowing definitive surgical management, hence locoregional treatment de-escalation.

Objectives

This study aims to investigate whether NAC+S has improved distant control as compared to CCRT.

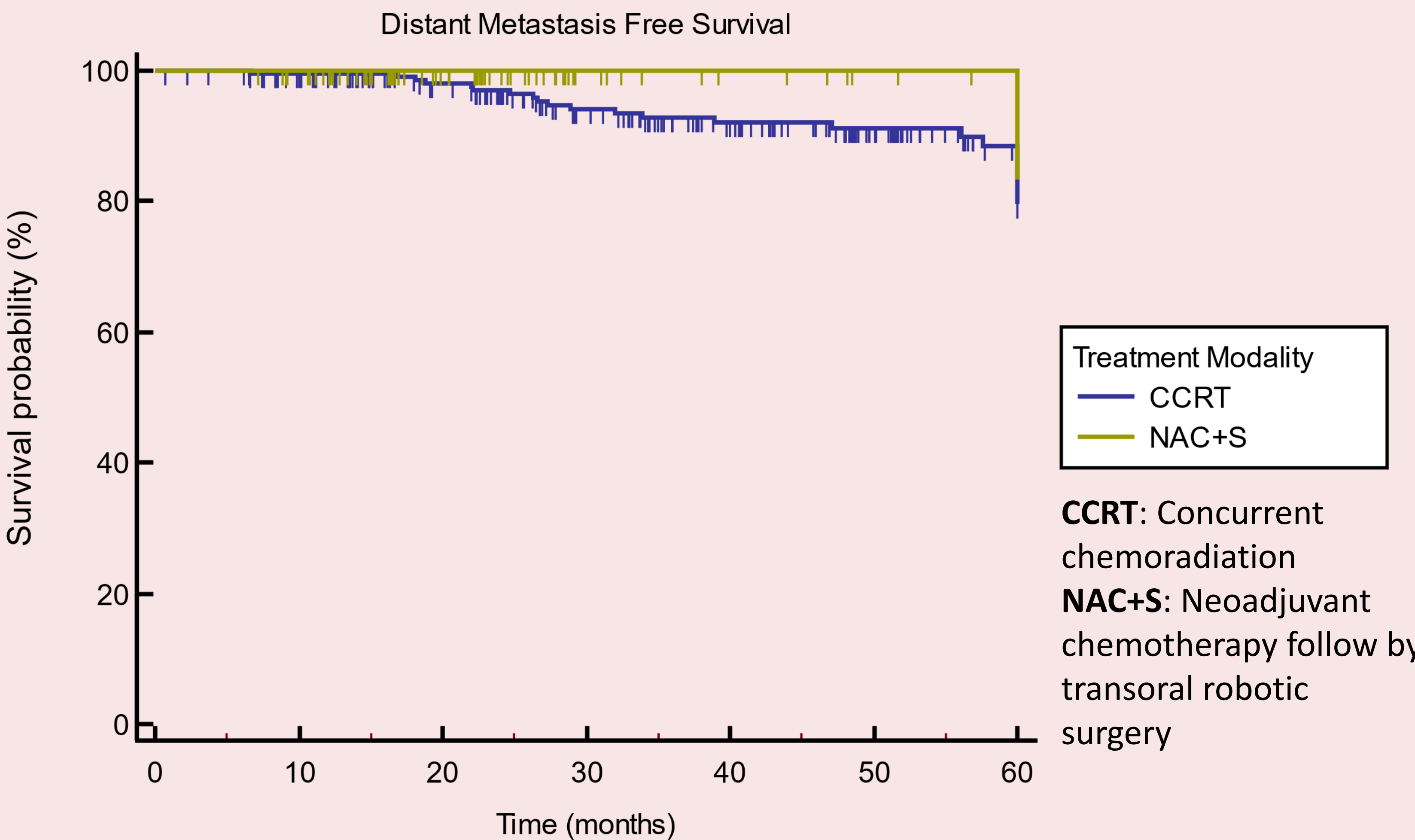
Methods

- Retrospective multicenter case-control study
- Patients with locoregionally advanced, p16+ and non-metastatic, OPC undergoing curative intent treatment with NAC+S were compared to a similar historic cohort of patient undergoing CCRT.
- 313 patients** with OPC were retrospectively identified from a multicenter institutional database between 2009-2019. Most patients were male (82.4%) with a tonsil primary (58.4%)
- Disease-free survival (DFS) and distant metastasis-only-free survival (DMFS) were analyzed with Kaplan-Meier and Cox regression.

Results

- Distant-only metastases:** Zero patients in NAC+S group had distant-only metastases compared with 18 (7.5%) patients in CCRT group
- 5-year DFS:** 89.9% (95% CI 77.4-100) for NAC+S group compared to 75.1% (95% CI 67.5-82.6, 0.03) for CCRT group
- 5-year DMFS:** 100% (95% CI 95-100) for NAC+S group compared to 76.7% (95% CI 71.7-81.7, p=0.03) for CCRT (Figure)
- DFS Hazard ratio:** 0.21 (95% CI 0.03-1.65) for NAC+S compared to CCRT, on multiple cox regression
- DMFS Hazard ratio:** 0.31 (95% CI 0.15-0.65) for NAC+S compared to CCRT
- On multivariate analysis, advanced T and N-stage were predictive of distant metastasis.

Survival probability for distant metastases free survival (DMFS)



Conclusion

- Patients undergoing NAC+S had improved distant metastasis-free survival compared to CCRT**
- Neoadjuvant therapy followed by surgery paradigm may effectively treat OPC and associated occult metastases.**

Acknowledgements

Supported by Simone & Morris Fast Award for Oncology, Research Institute of McGill University Health Centre

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Patient Characteristics	NAC+S	CCRT
n (number)	74	239
Age, years, mean (IQR)	59.9 (55-64.8)	61.8 (53-67)
Sex, Male, n (%)	65 (87.8)	193 (80.7)
CCI mean (IQR)	5.1 (4-6)	4.2 (3-5)
Primary tumor site, n (%)		
Tonsil	39 (52.7)	144 (60.1)
Base of Tongue	32 (43.3)	90 (37.7)
Soft palate	3 (4)	5 (2.1)
T stage, n (%)		
0	1 (1.4)	5 (2.1)
1	15 (20.3)	87 (36.4)
2	37 (50)	93 (38.9)
3	21 (28.4)	54 (22.6)
N stage*, n (%)		
0	7 (9.5)	20 (8.4)
1	18 (24.3)	39 (16.3)
2a	10 (13.5)	88 (36.8)
2b	36 (48.6)	62 (25.9)
2c	3 (4.1)	30 (12.6)

Patient Characteristics

IQR: Interquartile range
*ACJJ 7th edition