



TORS in the Era of De-escalation: Redefining the Role of Surgery In HPV+ OPC

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MUSC Putney Lectureship, 10-24-2025



Disclosures

- No financial disclosures or conflicts of interest.
- Nonfinancial: I have no relevant nonfinancial relationship to disclose.



Outline

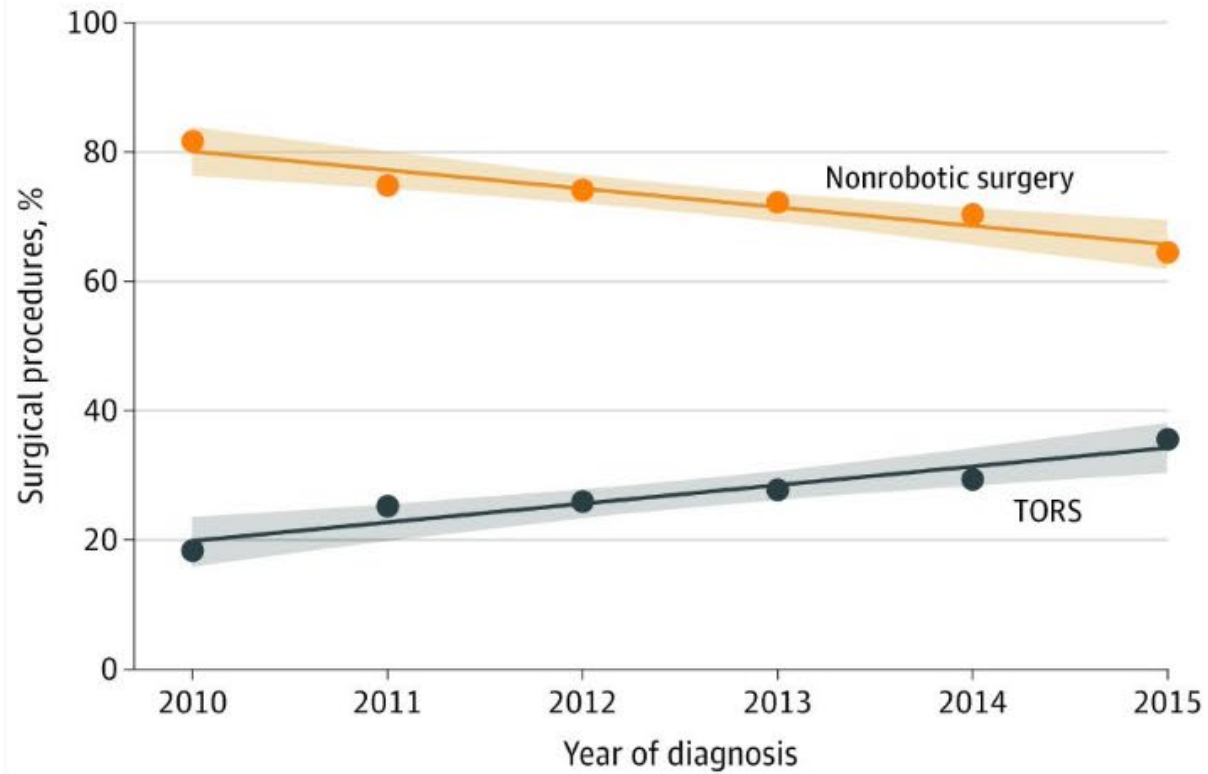
- Trends in TORS
- De-escalation strategies
- Integrating TORS into practice
 - TORS as a tool to guide adjuvant therapy decisions
- Future directions



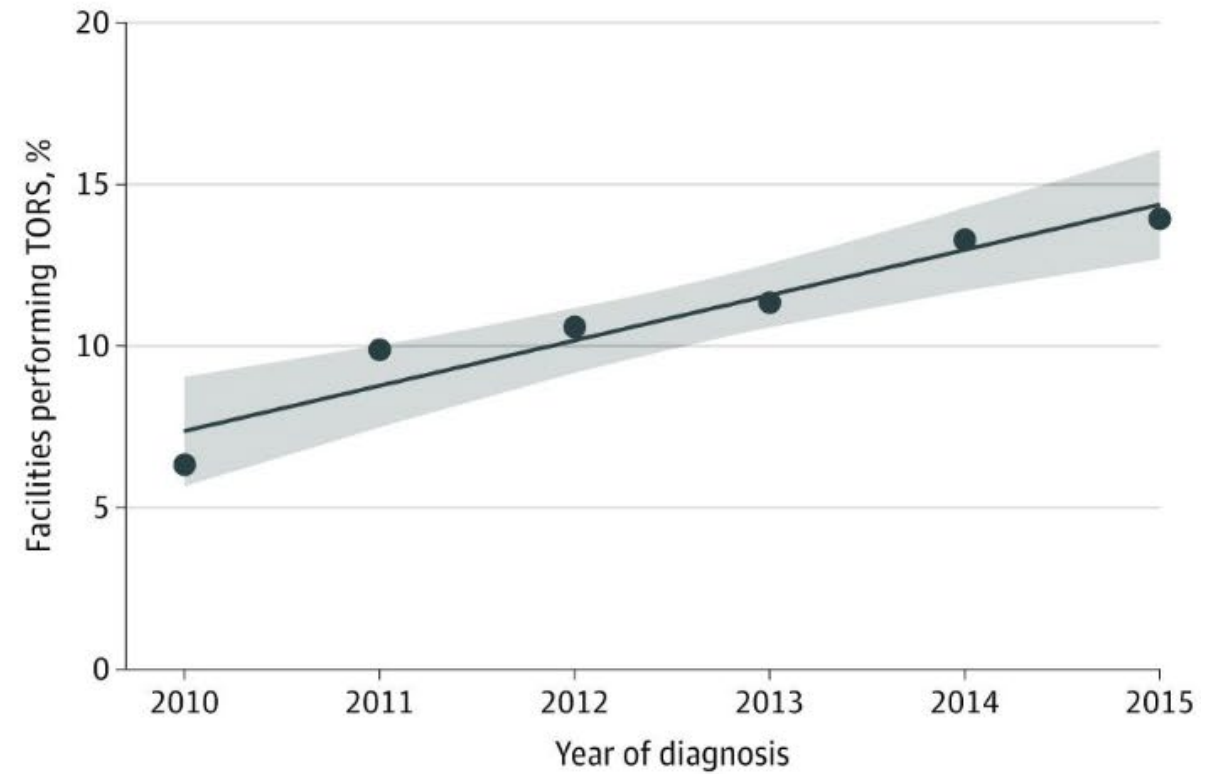
TRENDS IN TORS



A Primary surgical management of early-stage oropharyngeal SCC over time



B Facilities with at least 1 robotic surgical procedure performed over time





DE-ESCALATION STRATEGIES

- Chemotherapy & Radiation
 - Radiation volume
 - Adjuvant chemotherapy
 - Omit adjuvant radiation
- Surgery
 - Transoral surgery
- Adjuvant treatment
 - Risk-adapted definitive therapy





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TORS IN DE-ESCALATION TRIALS



Phase II Randomized Trial of Transoral Surgery and Low-Dose Intensity Modulated Radiation Therapy in Resectable p16+ Locally Advanced Oropharynx Cancer: An ECOG-ACRIN Cancer Research Group Trial (E3311)

Robert L. Ferris, MD, PhD¹; Yael Flamand, MS²; Gregory S. Weinstein, MD³; Shuli Li, PhD²; Harry Quon, MD⁴; Raneer Mehra, MD⁵; Joaquin J. Garcia, MD⁶; Christine H. Chung, MD⁷; Maura L. Gillison, MD, PhD⁸; Umamaheswar Duvvuri, MD, PhD¹; Bert W. O'Malley Jr, MD³; Enver Ozer, MD⁹; Giovana R. Thomas, MD¹⁰; Wayne M. Koch, MD⁴; Neil D. Gross, MD⁸; R. Bryan Bell, MD¹¹; Nabil F. Saba, MD¹²; Miriam Lango, MD¹³; Eduardo Méndez, MD^{14,†}; and Barbara Burtneess, MD¹⁵

- Aim: Evaluate TOS + reduced adjuvant RT in intermediate risk HPV+ OPC
- Methods: Phase II RCT, reduced- vs standard-dose PORT for stage III-IVa HPV+ OPC
- Primary endpoint: 2yr-PFS

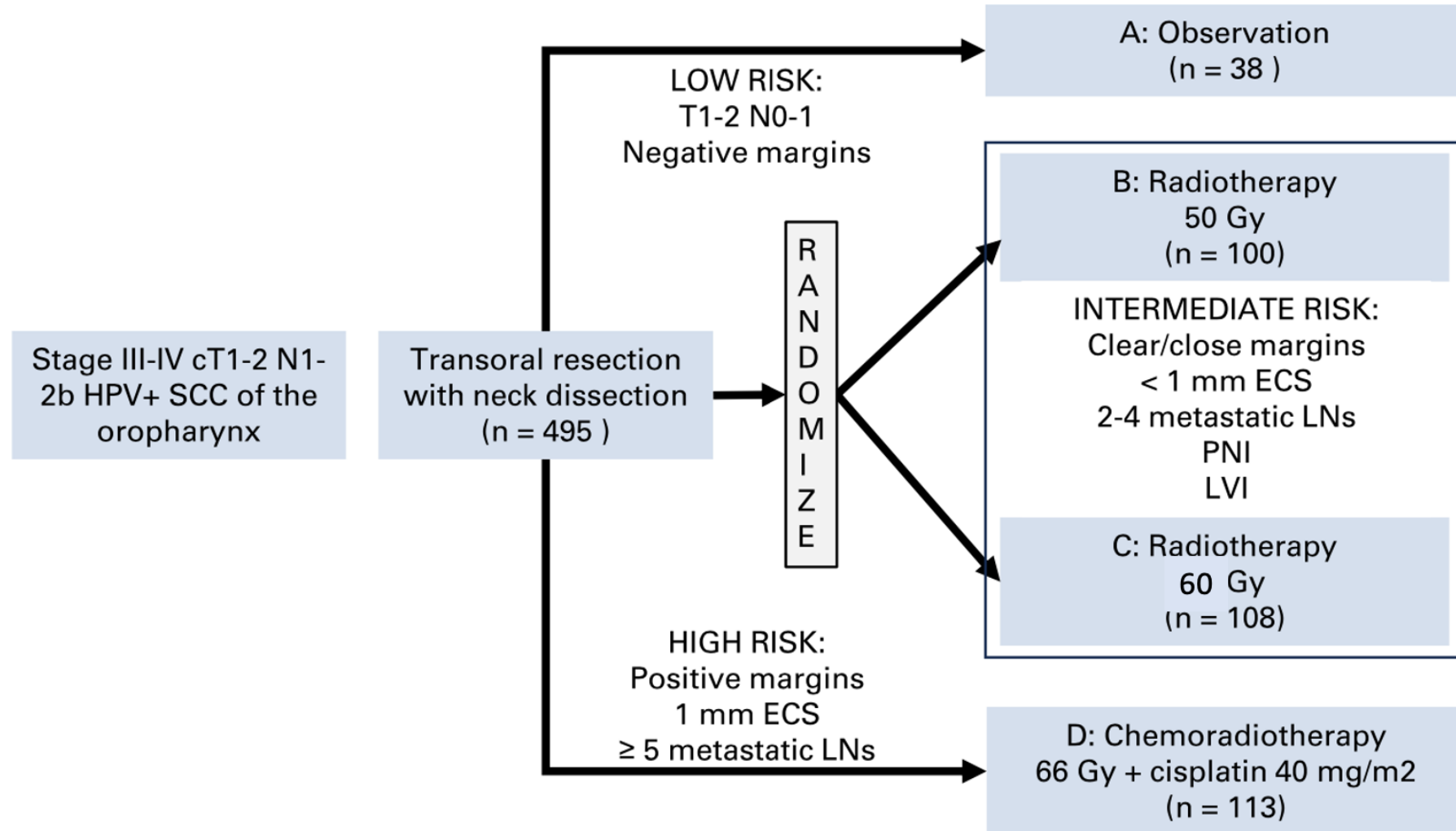


Figure 1 adapted from Contrera et al 2025

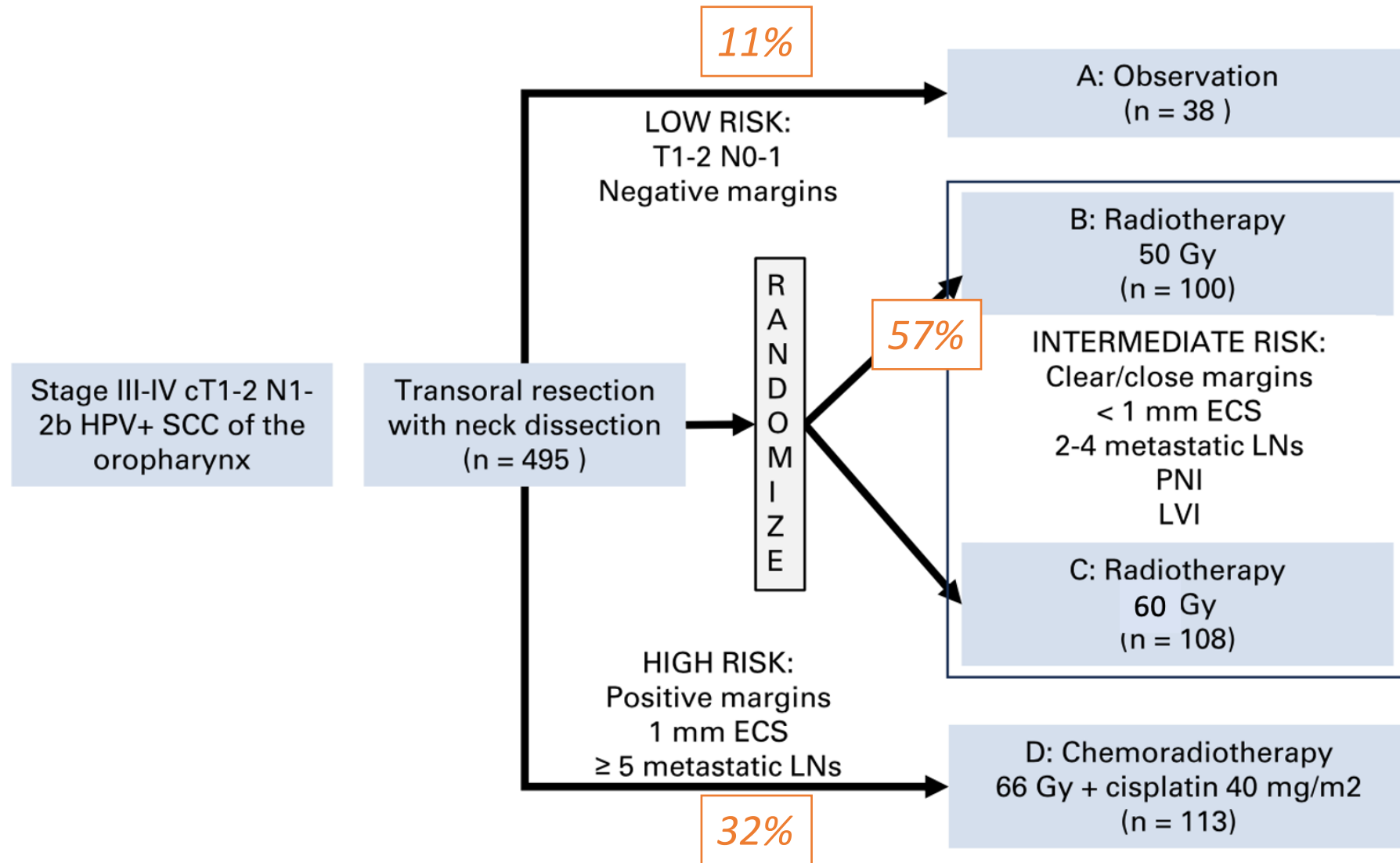


Figure 1 adapted from Contrera et al 2025



2YR-PFS:

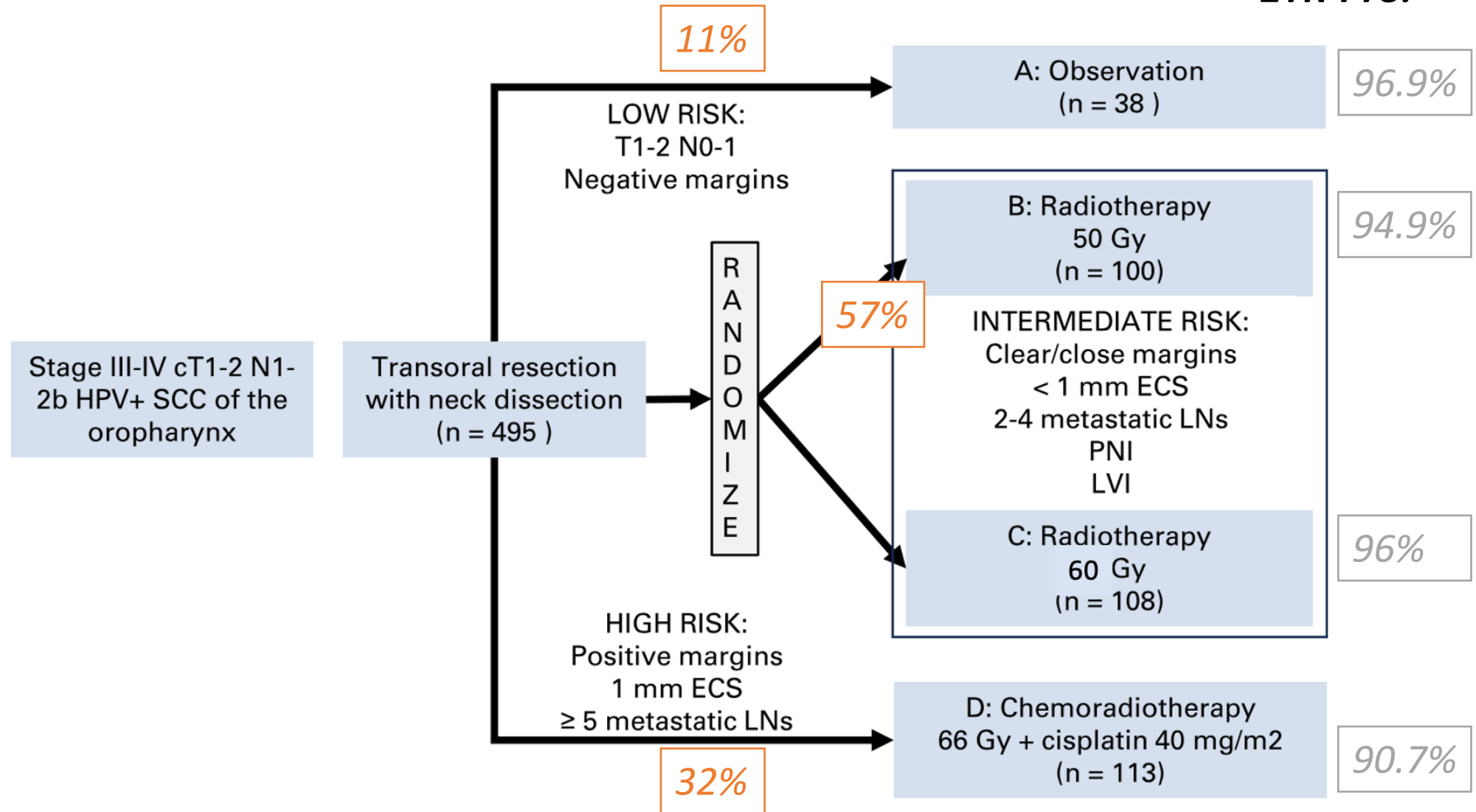


Figure 1 adapted from Contrera et al 2025



Radiotherapy versus transoral robotic surgery and neck dissection for oropharyngeal squamous cell carcinoma (ORATOR): an open-label, phase 2, randomised trial

Anthony C Nichols, Julie Theurer, Eitan Prisman, Nancy Read, Eric Berthelet, Eric Tran, Kevin Fung, John R de Almeida, Andrew Bayley, David P Goldstein, Michael Hier, Khalil Sultanem, Keith Richardson, Alex Mlynarek, Suren Krishnan, Hien Le, John Yoo, S Danielle MacNeil, Eric Winquist, J Alex Hammond, Varagur Venkatesan, Sara Kuruvilla, Andrew Warner, Sylvia Mitchell, Jeff Chen, Martin Corsten, Stephanie Johnson-Obaseki, Libni Eapen, Michael Odell, Christina Parker, Bret Wehrli, Keith Kwan, David A Palma

Randomized Trial of Radiotherapy Versus Transoral Robotic Surgery for Oropharyngeal Squamous Cell Carcinoma: Long-Term Results of the ORATOR Trial

Anthony C. Nichols, MD¹; Julie Theurer, PhD²; Eitan Prisman, MD³; Nancy Read, MD⁴; Eric Berthelet, MD⁵; Eric Tran, MD⁵; Kevin Fung, MD¹; John R. de Almeida, MD, MSc⁶; Andrew Bayley, MD⁷; David P. Goldstein, MD⁶; Michael Hier, MD⁸; Khalil Sultanem, MD⁹; Keith Richardson, MD⁸; Alex Mlynarek, MD⁸; Suren Krishnan, MD¹⁰; Hien Le, MD¹¹; John Yoo, MD¹; S. Danielle MacNeil, MD, MSc¹; Eric Winquist, MD, MSc¹²; J. Alex Hammond, MBBCh⁴; Varagur Venkatesan, MBBS⁴; Sara Kuruvilla, MD¹²; Andrew Warner, MSc⁴; Sylvia Mitchell, MRT⁴; Jeff Chen, PhD⁴; Martin Corsten, MD¹³; Stephanie Johnson-Obaseki, MD, MPH¹³; Michael Odell, MD¹³; Christina Parker, AuD¹⁴; Bret Wehrli, MD¹⁵; Keith Kwan, MD¹⁵; and David A. Palma, MD, PhD⁴

Aim: Evaluate long-term swallowing outcomes in patients after primary RT compared to primary TORS

Methods: Phase II RCT, RT or TORS + ND +/- adjuvant therapy in T1-2, N0-2 (<=4cm)

Primary endpoint: Swallowing QOL (MDADI)

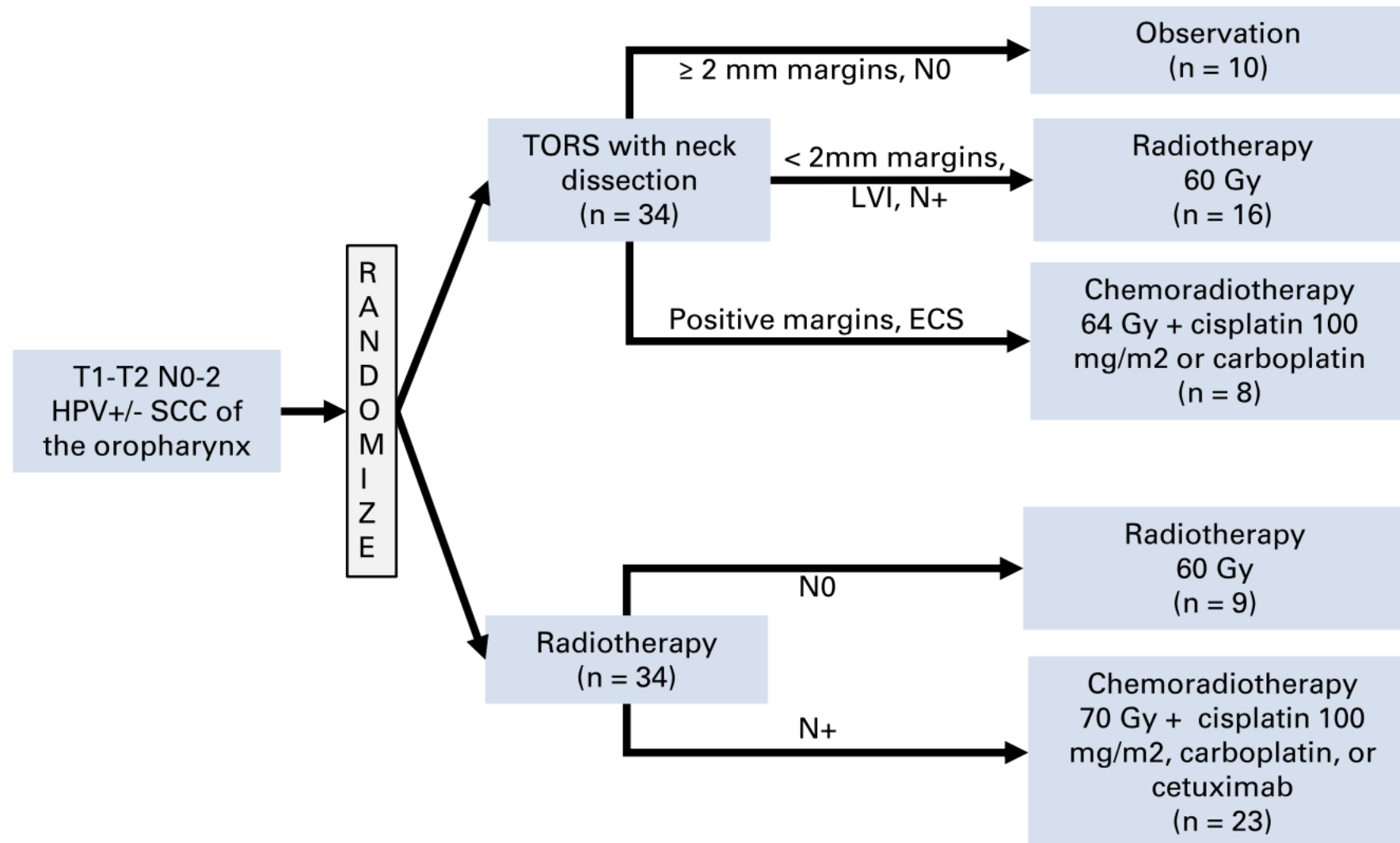


Figure 2 adapted from Contrera et al 2025

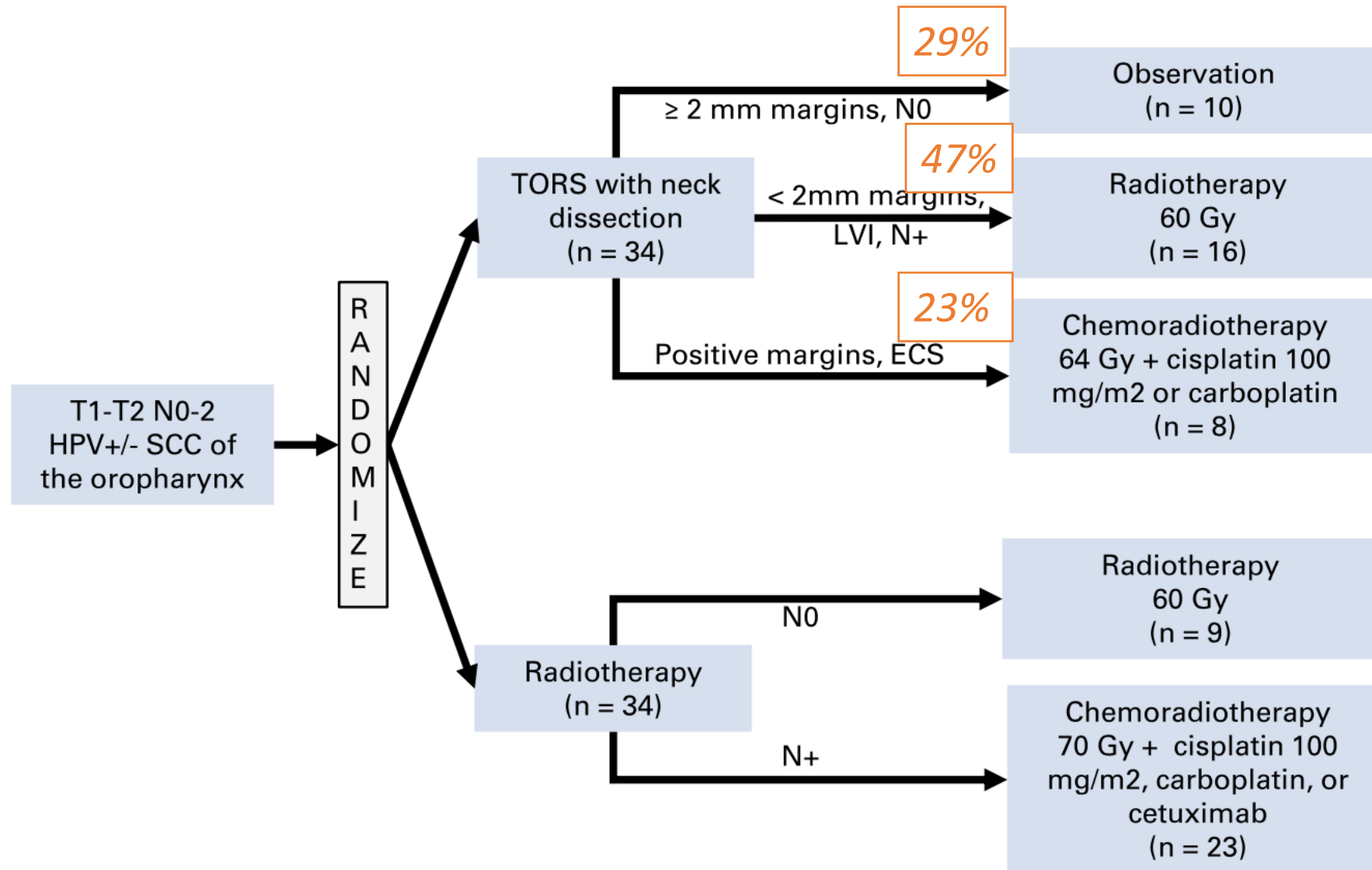
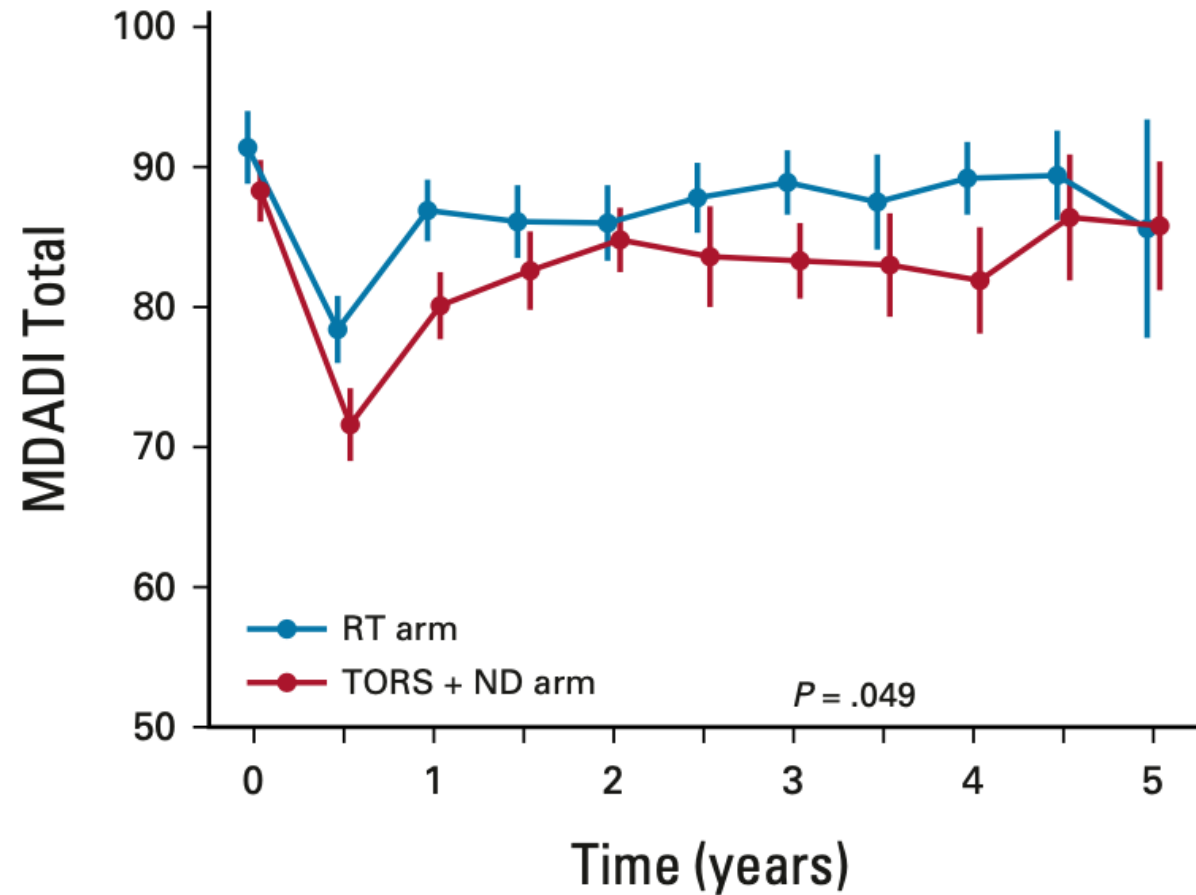


Figure 2 adapted from Contrera et al 2025



No. at risk:

RT	32	29	27	24	24	24	25	13	15	8	7
TORS + ND	32	33	30	23	29	17	26	16	19	8	8



JAMA Oncology | **Original Investigation**

Assessment of Toxic Effects and Survival in Treatment Deescalation With Radiotherapy vs Transoral Surgery for HPV-Associated Oropharyngeal Squamous Cell Carcinoma

The ORATOR2 Phase 2 Randomized Clinical Trial

Aim: To compare survival, toxicities and QOL between primary reduced-dose CRT and TOS with reduced-dose PORT

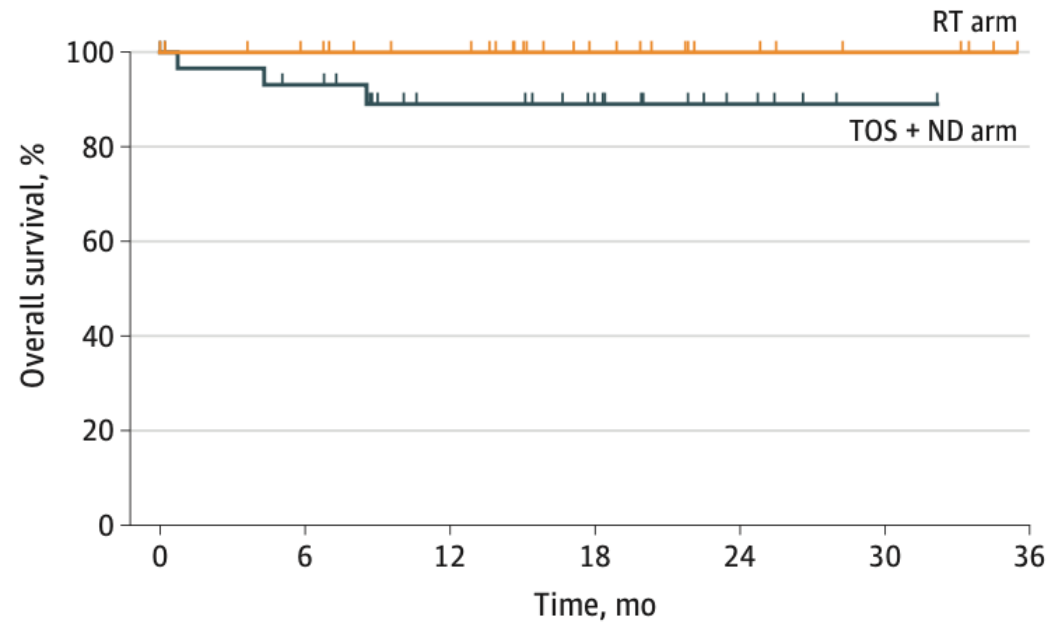
Methods: Phase II RCT, reduced-dose RT or TORS + ND +/- reduced-dose adjuvant therapy in T1-2, N0-2

Primary endpoint: OS



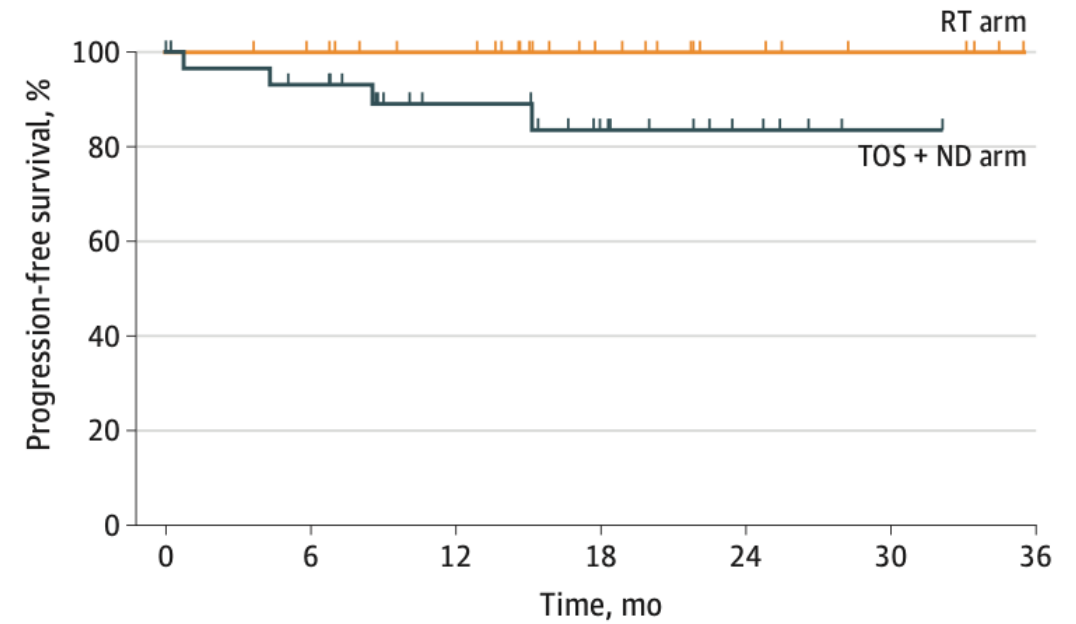
Figure 2. Preliminary Analyses of Time-to-Event Outcomes for Overall Survival and Progression-Free Survival Stratified by Treatment Arm

A Overall survival stratified by treatment arm



No. at risk						
RT arm	30	27	23	13	7	4
TOS + ND arm	31	26	17	12	5	1

B Progression-free survival stratified by treatment arm



No. at risk						
RT arm	30	27	23	13	7	4
TOS + ND arm	31	26	17	11	5	1



ORATOR/ORATOR2

- 4.6% TORS-related mortality
- 1cm margin goal
- Recommended tracheostomy in surgical arm

ECOG 3311

- 1/495 TORS-related mortality
- Surgeon margin discretion
- Reduced adjuvant CRT



Studies including TORS for de-escalation

CLINICAL INVESTIGATION

Long-Term Toxic Effects, Swallow Function, and Quality of Life on MC1273: A Phase 2 Study of Dose De-escalation for Adjuvant Chemoradiation in Human Papillomavirus-Positive Oropharyngeal Cancer

Katharine Price, MD,^{*} Kathryn M. Van Abel, MD,[†] Eric J. Moore, MD,[†] Samir H. Patel, MD,[‡] Michael L. Hinni, MD,[§] Ashish V. Chintakuntlawar, MBBS, PhD,^{*} Darlene Graner, SLPD,^{||} Michelle Neben-Wittich, MD,[¶] Yolanda I. Garces, MD,[¶] Daniel L. Price, MD,[†] Jeffrey R. Janus, MD,[#] Nathan R. Foster, MS,^{**} Brenda F. Gi Robert L. Foote, MD,[¶] and Daniel Ma, MD[¶]

Long-Term Efficacy of Risk-Directed, De-Escalated Post-Operative Adjuvant Therapy for Surgically Resected Locally Advanced, Human Papillomavirus-Positive Oropharynx Squamous-Cell Carcinoma (HPV+ OPSCC): A Non-Randomized, Multi-Arm Phase 2 Trial

W.L. Thorstad,¹ R.S. Jackson,² P. Oppelt,³ P. Pipkorn,² J. Rich,⁴ J. Ley,⁵ B. Thomeczek,⁵ J. Liu,⁵ J.P. Zevallos,⁶ S. Puram,⁷ and D. Adkins⁸; ¹Depart-



FUTURE DIRECTIONS

PATHOS: a phase II/III trial of risk-stratified, reduced intensity adjuvant treatment in patients undergoing transoral surgery for Human papillomavirus (HPV) positive oropharyngeal cancer

Waheeda Owadally¹, Chris Hurt^{2*}, Hayley Timmins², Emma Parsons³, Sarah Townsend⁴, Joanne Patterson⁵, Katherine Hutcheson⁶, Ned Powell⁷, Matthew Beasley⁸, Nachi Palaniappan¹, Max Robinson⁹, Terence M. Jones¹⁰ and Mererid Evans¹

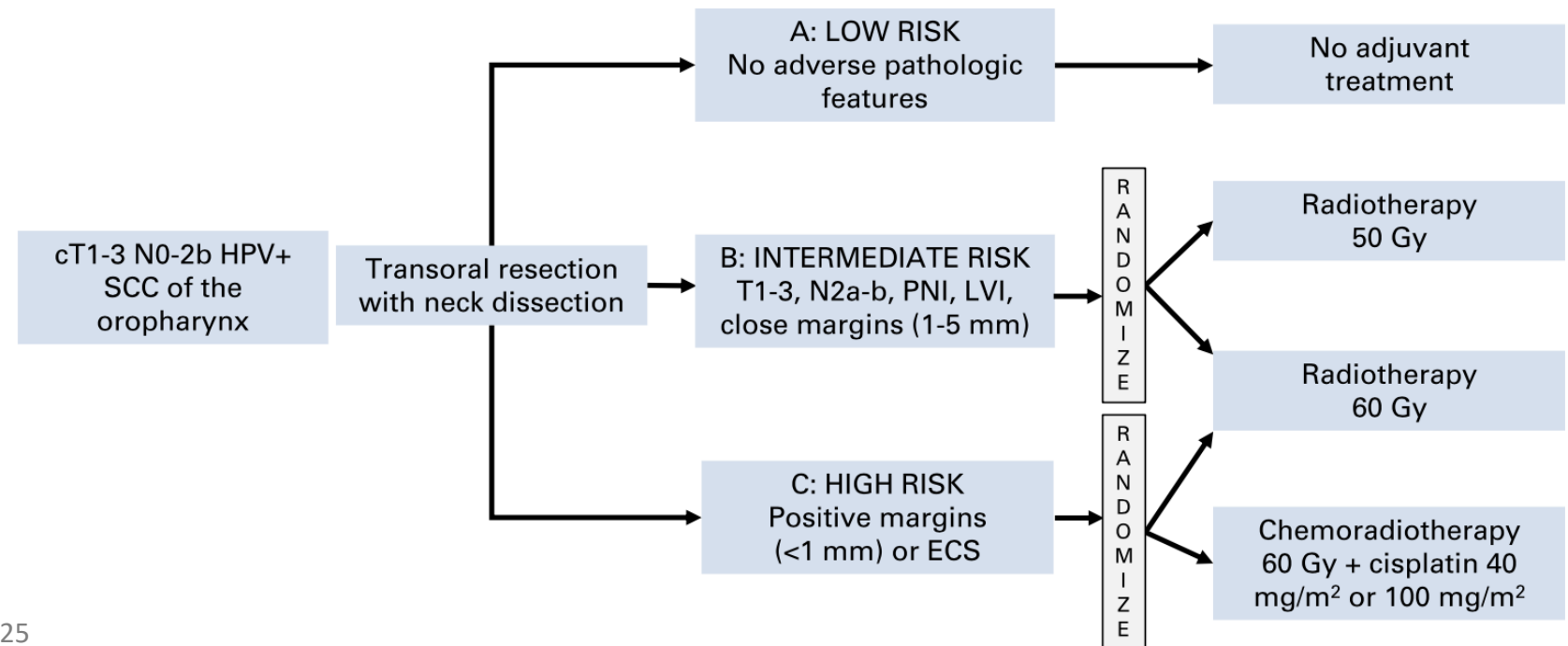
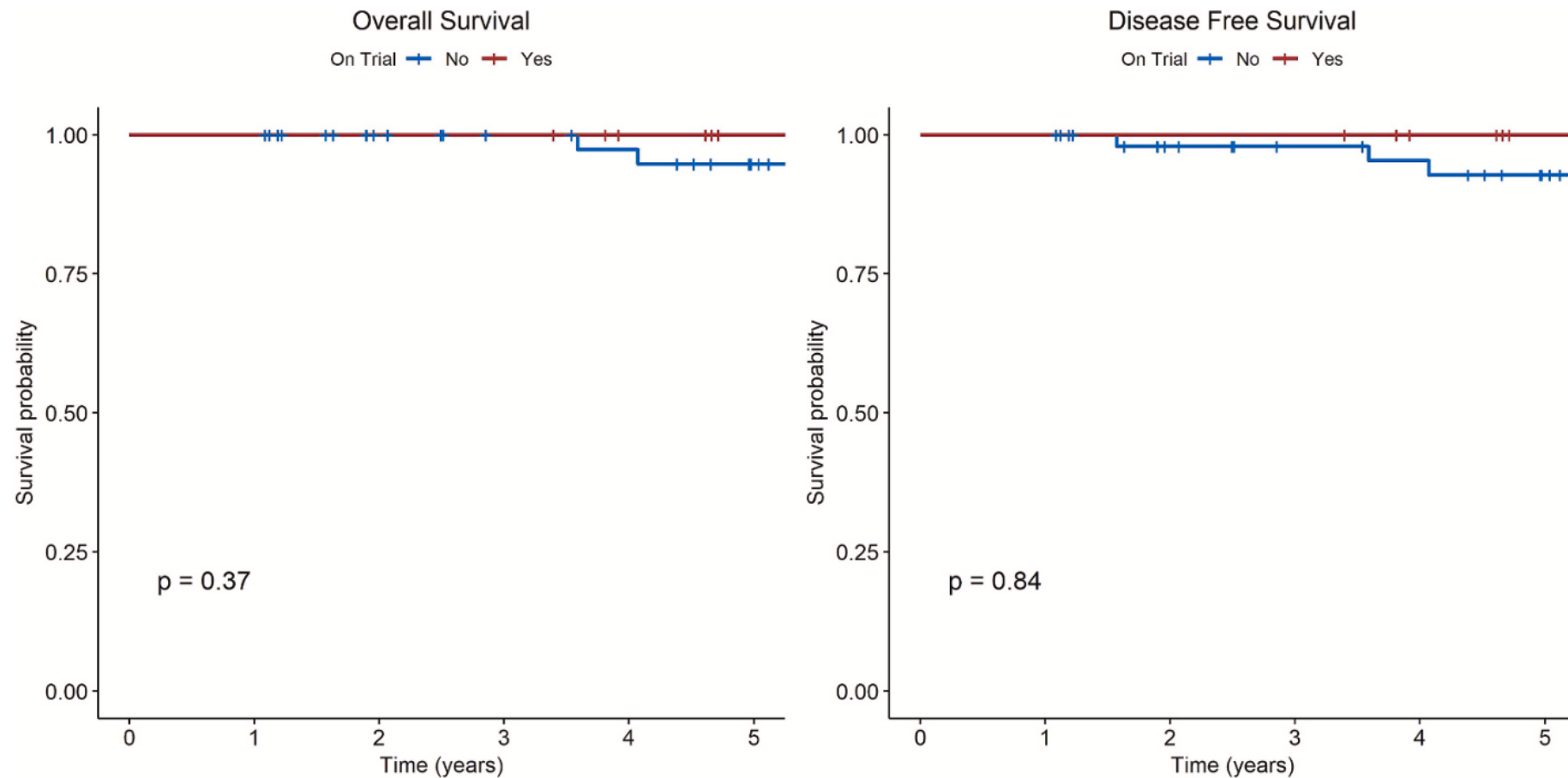


Figure 3 adapted from Contrera et al 2025



Management of HPV+ head and neck squamous cell carcinoma with unknown primary in the era of treatment de-escalation

Thomas F. Barrett^a, Anthony J. Apicelli^{b,c}, Salma Ramadan^a, Patrik Pipkorn^{a,b}, Paul Zolkind^{a,b}, Jason T. Rich^{a,b}, Richard A. Harbison^{a,b}, Wade Thorstad^{b,c}, Hiram Gay^{b,c}, Nikhil Rammohan^{b,c}, Michael J. Moravan^{b,c}, Jennifer De Los Santos^{b,c}, Peter Oppelt^{b,d}, Douglas Adkins^{b,d}, Ryan S. Jackson^{a,b,*}, Sidharth V. Puram^{a,b,e,*} 





Summary

- TORS serves as an important tool for tailoring patient-specific treatment selection in the era of de-escalation for HPV-positive oropharyngeal cancer.
- Careful patient selection to optimize the benefits of treatment de-escalation.
- Further studies to evaluate the integration of TORS with emerging therapies and its role in the unknown primary setting to a guide adjuvant therapy de-escalation.



Thank you!



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