

ACS Cancer Conference 2025

March 12-14 | Phoenix, AZ

Survival outcomes of adjuvant treatment in upstaged cT2N0 rectal cancer: are we underutilizing therapy?

SIMRAN KRIPALANI MD¹, CAROLINE WESTWOOD MD², JILL S HASLER PHD³, ANDREA S. PORPIGLIA, MD, STEPHANIE H. GRECO, MD, SANJAY S. REDDY, MD, JOSHUA E. MEYER, MD, JEFFREY M. FARMA, MD, **ANTHONY M. VILLANO MD^{1,3}**

¹DEPARTMENT OF GENERAL SURGERY, TEMPLE UNIVERSITY HOSPITAL, PHILADELPHIA, PA

²LEWIS KATZ SCHOOL OF MEDICINE, TEMPLE UNIVERSITY, PHILADELPHIA, PA

³DIVISION OF SURGICAL ONCOLOGY, FOX CHASE CANCER CENTER, TEMPLE UNIVERSITY, PHILADELPHIA, PA

Disclosure information

Simran Kripalani, MD

Temple University Hospital

I do not have any financial disclosures or relationships to disclose.

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Introduction

- Upstaging after resection for rectal cancer is common, about 24.5% of stage 1 rectal cancer is upstaged
- It is unclear how to manage patients with cT2N0 disease that is upstaged to pT3N0 following resection
- NCCN offers several potential options:
 - Observation
 - Postoperative chemoradiation and chemotherapy
 - Postoperative chemotherapy alone

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Aims

- Analyze national trends of adjuvant treatment after upstaging of cT2N0 rectal cancer
- Compare oncologic outcomes amongst different adjuvant treatment strategies

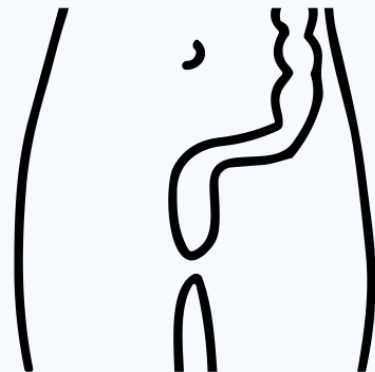
Treatment Groups

- Surgery alone
- Surgery + postoperative chemotherapy
- Surgery + postoperative chemoradiation
- Surgery + both (chemotherapy and radiation)

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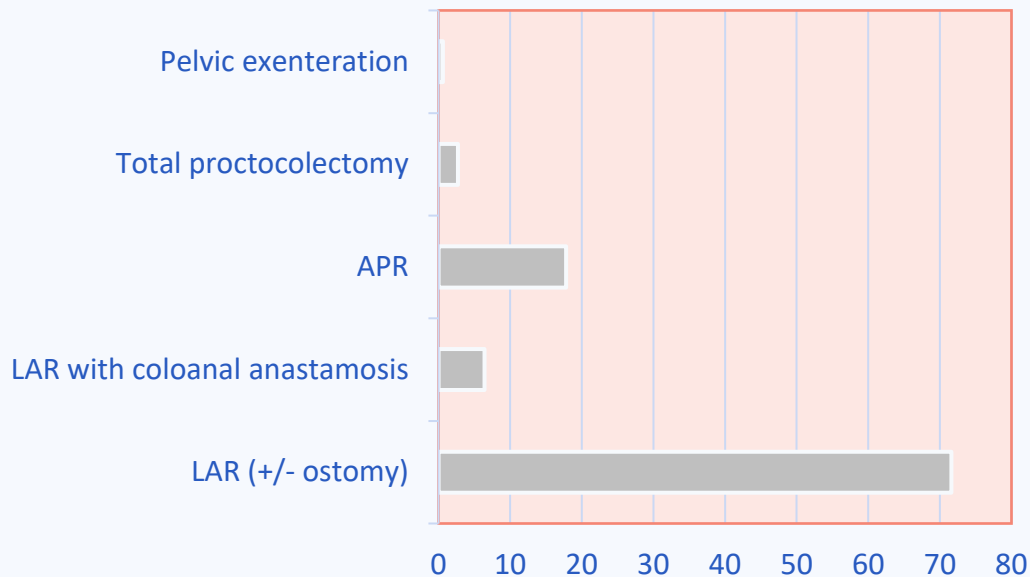
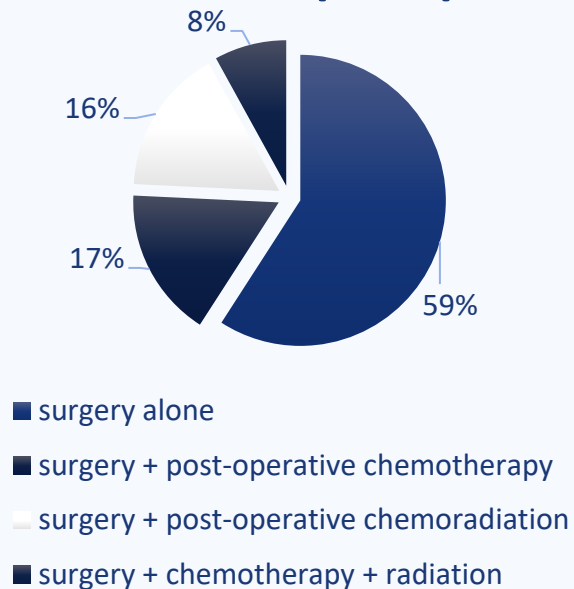
Methods

- Retrospective analysis of the National Cancer Database (2004-2020)
- Inclusion:
 - Age ≥ 18
 - Curative intent resection
 - cT2N0 $\rightarrow$ pT3N0 following resection
- Statistics:
 - Kruskal-Wallis and Chi-square tests
 - Cox Proportional Hazard Models (treatment group as time-varying covariate)
 - Kaplan Meier survival analysis with a **6-month Landmark analysis**



Results

Treatment Group Proportions



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Results

Categories	Group 1 Surgery Alone (n=518)	Group 2 Surgery + postop chemo alone (n=146)	Group 3 surgery + postop chemoradiation (n=142)	Group 4 Surgery + postop chemo + radiation (n=72)	P-value
Age	68	60	62	57	<0.001
Insurance status					<0.001
Uninsured	1%	1%	3%	1%	
Private	36%	54%	44%	67%	
Medicaid	5%	5%	8%	4%	
Medicare	5%	38%	42%	26%	
Facility type					0.018
Community cancer program	41%	42%	56%	44%	
Academic or research	34%	31%	26%	39%	
Integrated	25%	27%	18%	17%	

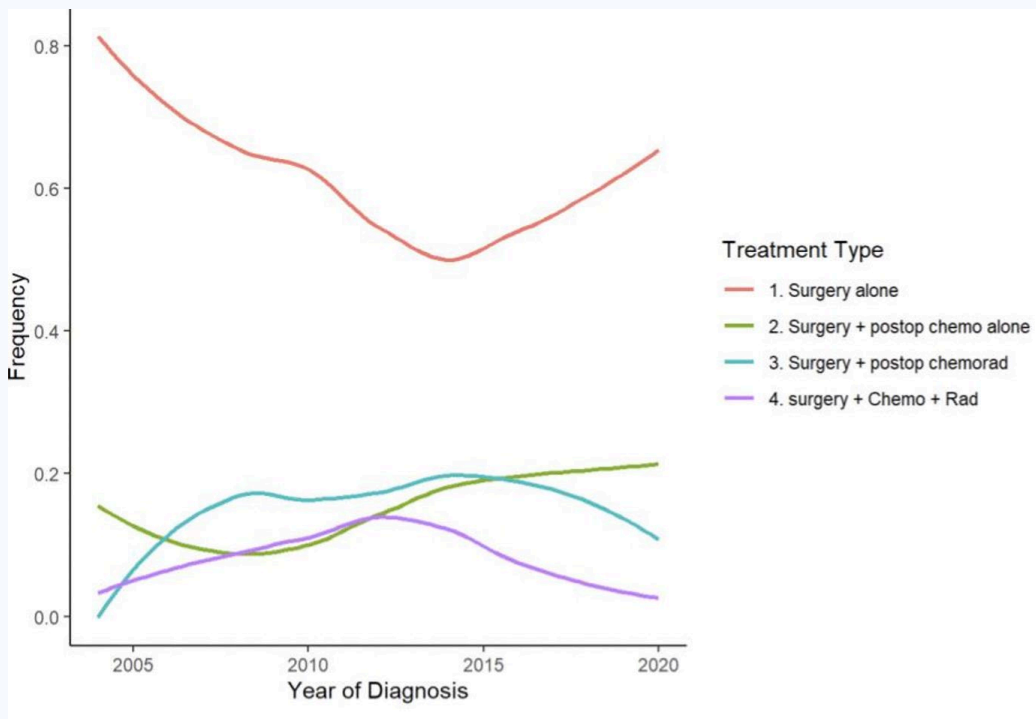
Results

	Group 1 Surgery Alone (n=518)	Group 2 Surgery + postop chemo alone (n=146)	Group 3 surgery + postop chemoradiation (n=142)	Group 4 Surgery + postop chemo + radiation (n=72)	P-value
Tumor grade					0.006
Well	10%	3%	5%	13%	
Moderate	79%	78%	82%	67%	
Poor/ Undifferentiated	9%	16%	11%	15%	
Unknown	2%	2%	2%	6%	
Overall Survival	62%	86%	73%	86%	<0.001

No difference
between groups
amongst:

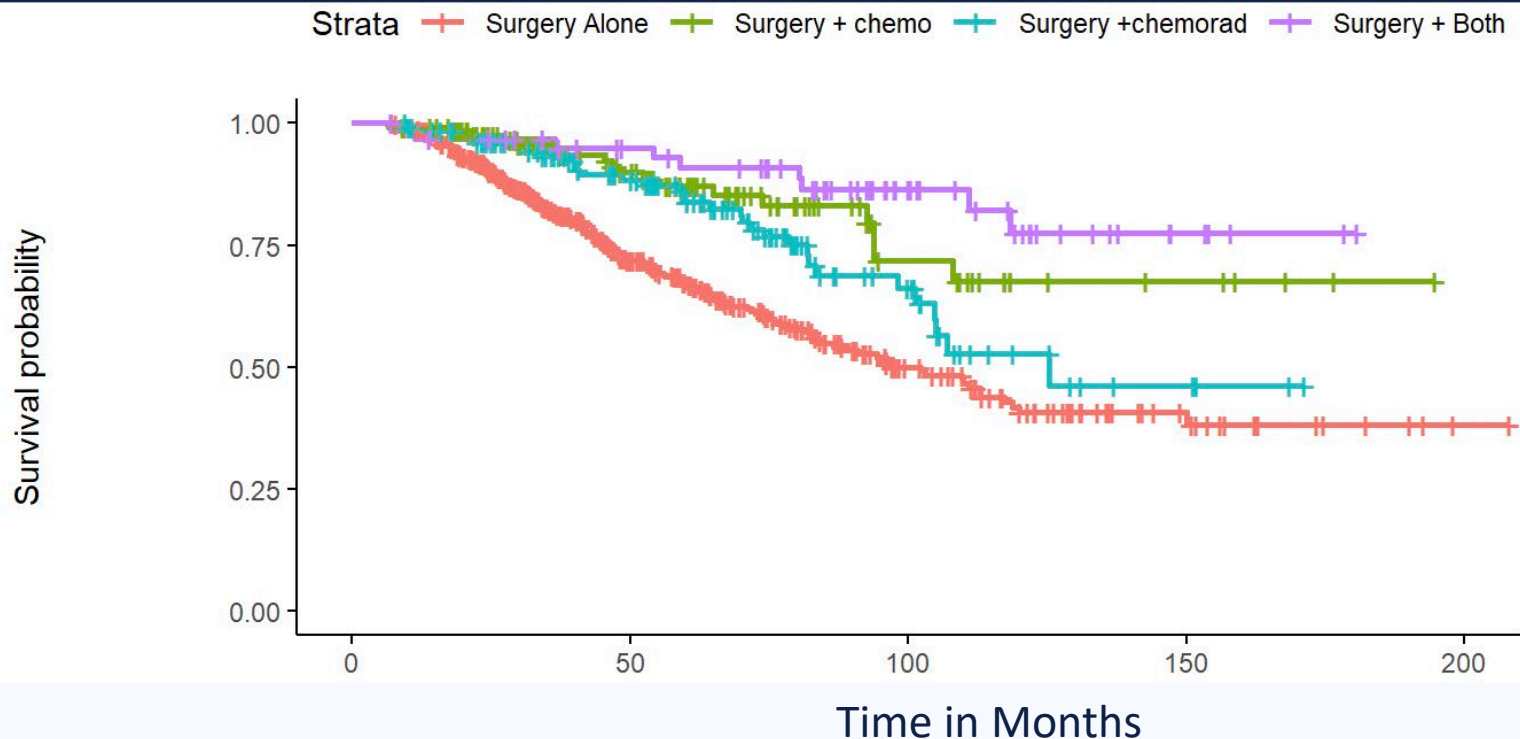
- Gender
- Tumor size
- CEA level
- MSI status
- 30-day readmission rates

Treatment Trends over Time 2004-2020



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Kaplan Meier Overall Survival



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Results

Cox Proportional Hazards Model

Adjusted	HR	P-value
Treatment Chemo	0.412 (0.353-0.674)	0.000
Treatment Chemo + Rad	0.422 (0.218-0.815)	0.010
Treatment Chemoradiation	0.866 (0.611-1.1227)	0.418

*variables in adjusted model= age, Charlson comorbidity score, tumor grade, and insurance status

Limitations

- Lack of granular data regarding locoregional recurrence
- Challenges in grouping patients into adjuvant therapy groups (assumption required to classify)
- No data regarding location of the primary in the rectum
- Additional variables which may not be included in NCDB database

Conclusions

- In this analysis, post-operative adjuvant regimens including chemotherapy were independently associated with improved survival in cT2N0 rectal cancer upstaged to pT3N0
- Adjuvant therapy may currently be underutilized in this setting

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Thank You!

Simran Kripalani MD
Temple University Hospital
Twitter @SKripalaniMD