1409

Comparison of Survival and Recurrence Outcomes Among Breast Cancer Patients: Breast-Conserving Surgery vs. Medically Necessary and Patient Preference Mastectomy

THE UNIVERSITY OF BRITISH COLUMBIA

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BACKGROUND

Global mastectomy rates for early-stage breast cancer have risen. Patients may perceive mastectomy to improve cancer outcomes despite emerging evidence favoring breast-conserving surgery (BCS).

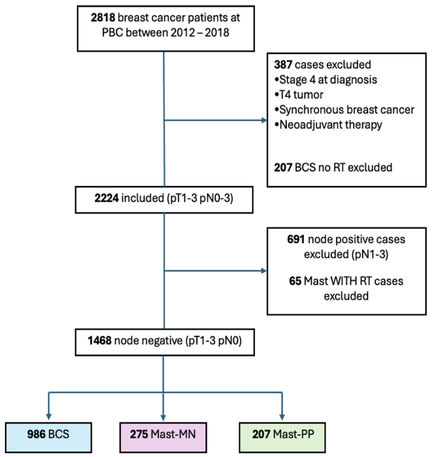
STUDY OBJECTIVE/ HYPOTHESIS

Objective: To compare the survival and cancer recurrence outcomes between **BCS**, medically necessary mastectomy (**Mast-MN**), and patient preference mastectomy (**Mast-PP**).

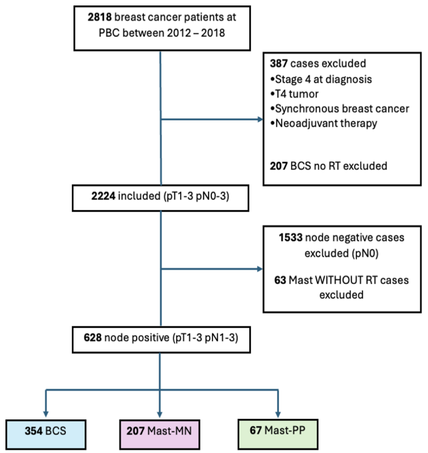
Hypothesis: BCS patients will have no different survival or recurrence outcomes compared to Mast-MN and Mast-PP.

METHODS

Node Negative Cohort



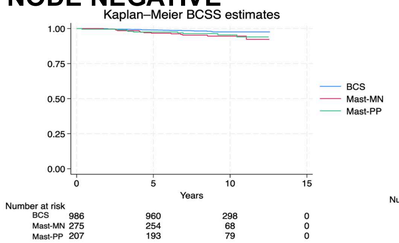
Node Positive Cohort

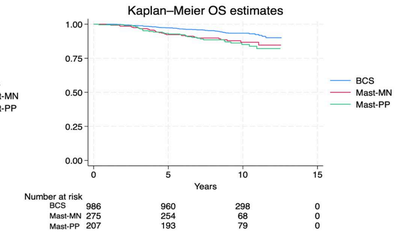


- Mastectomy indication coded preoperatively by surgeon:
  - Mast-MN = BCS contraindicated
  - Mast-PP = patient preference when BCS feasible
- Analyses stratified by nodal status on final pathology to account for post-mastectomy radiation guidelines
- Statistical analysis:
  - Breast cancer specific survival (BCSS) → cause-specific hazard model
  - Overall survival (OS) → Cox proportional hazards model
  - Local (LR) / Regional recurrence (RR) → Fine-Gray competing risk model
  - Controlling for age, T stage, receptor status, grade, LVI, adjuvant hormone/chemotherapy, axillary dissection

RESULTS

NODE NEGATIVE



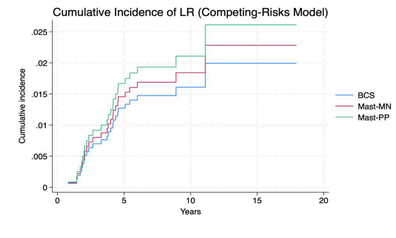


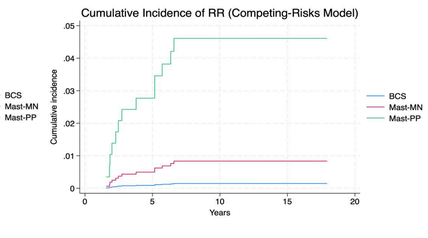
Adjusted Breast Cancer Specific Survival			
Regression Effect	**HR**	**95% CI**	**p-value**
Procedure			
Mast-PP	2.23	1.00, 5.00	0.051
Mast-MN	3.01	1.43, 6.32	0.004
BCS	Reference		

*adjusting for confounding covariates

Adjusted Overall Survival			
Regression Effect	**HR**	**95% CI**	**p-value**
Procedure			
Mast-PP	2.03	1.29, 3.20	0.002
Mast-MN	1.75	1.10, 2.77	0.017
BCS	Reference		

*adjusting for confounding covariates





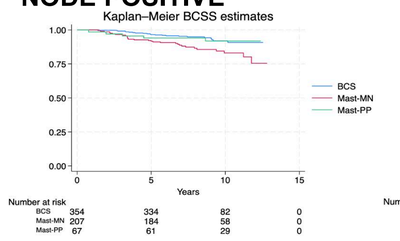
Adjusted Local Recurrence			
Regression Effect	**Subdistribution HR**	**95% CI**	**p-value**
Procedure			
Mast-PP	0.87	0.26, 3.00	0.846
Mast-MN	1.69	0.69, 4.14	0.247
BCS	Reference		

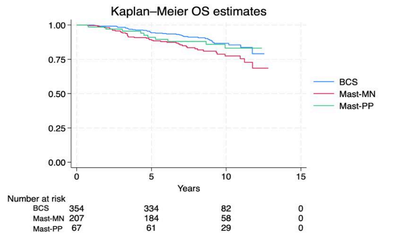
*adjusting for confounding covariates

Adjusted Regional Recurrence			
Regression Effect	**Subdistribution HR**	**95% CI**	**p-value**
Procedure			
Mast-PP	39.7	4.95, 318	0.001
Mast-MN	9.75	1.06, 90.0	0.045
BCS	Reference		

*adjusting for confounding covariates

NODE POSITIVE



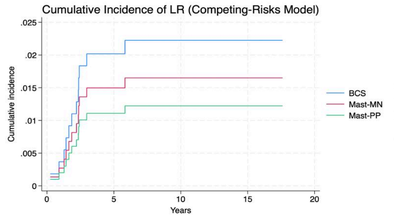


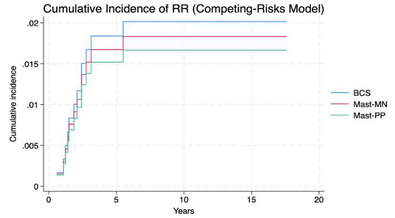
Adjusted Breast Cancer Specific Survival			
Regression Effect	**HR**	**95% CI**	**p-value**
Procedure			
Mast-PP	1.06	0.39, 2.91	0.908
Mast-MN	2.16	1.15, 4.05	0.017
BCS	Reference		

*adjusting for confounding covariates

Adjusted Overall Survival			
Regression Effect	**HR**	**95% CI**	**p-value**
Procedure			
Mast-PP	0.86	0.38, 1.97	0.725
Mast-MN	1.81	1.10, 2.95	0.019
BCS	Reference		

*adjusting for confounding covariates





Adjusted Local Recurrence			
Regression Effect	**Subdistribution HR**	**95% CI**	**p-value**
Procedure			
Mast-PP	0.45	0.08, 2.59	0.369
Mast-MN	0.07	0.08, 2.59	0.043
BCS	Reference		

*adjusting for confounding covariates

Adjusted Regional Recurrence			
Regression Effect	**Subdistribution HR**	**95% CI**	**p-value**
Procedure			
Mast-PP	0.44	0.04, 5.57	0.528
Mast-MN	0.68	0.10, 4.44	0.686
BCS	Reference		

*adjusting for confounding covariates

DISCUSSION

- Lower RR risk in BCS compared to Mast-PP and Mast-MN for node negative cases may be due to adjuvant RT, as node negative mastectomy cases do not routinely receive RT.
  - **Highlights misconception more surgery will reduce risk of recurrence, when patients may be missing benefit of RT.**
- Improved survival outcomes of BCS compared to Mast-MN is potentially due to other underlying disease factors.
  - Did not control for patient comorbidities in OS.
  - Does not change practice since the mastectomy was indicated.

Node Negative

	Mast-PP vs BCS	Mast-MN vs BCS
BCSS	=	BCS favored
OS	BCS favored	BCS favored
LR	=	=
RR	BCS favored	BCS favored* *chest & nodal RT, no difference chest RT alone

Node Positive

	Mast-PP vs BCS	Mast-MN vs BCS
BCSS	=	BCS favored
OS	=	BCS favored
LR	=	Mast-MN favored
RR	=	=

CONCLUSION

Mast-PP does not appear to confer any survival or recurrence advantage compared to BCS with radiation. In fact, for node negative patients, Mast-PP may have worse OS and higher risk of regional recurrence compared to BCS, likely due to omission of adjuvant radiation.

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