Effect of Statin Therapy on Cardiovascular Outcomes in Female Patients Receiving Anthracyclines: A Retrospective Propensity Score-Matched Analysis

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Aims/Introduction

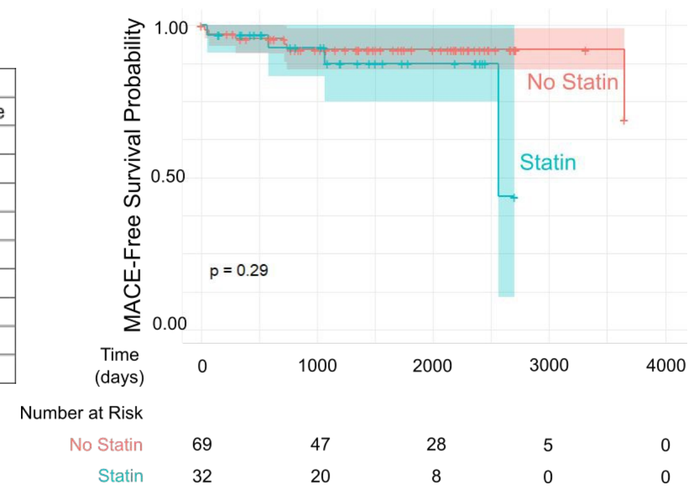
- Cardiovascular disease among cancer survivors is partly attributed to conventional chemotherapy and targeted cancer therapies.
- Identification and treatment of cancer therapy-related cardiovascular toxicity (CTR-CVT) remains a significant clinical challenge.
- Statins have been shown to reduce incidence of cardiac dysfunction in lymphoma patients receiving anthracyclines (STOP-CA)
- Aim of this study is to assess other benefits of **statin therapy** in **adult females** treated with **anthracyclines** in a community cohort

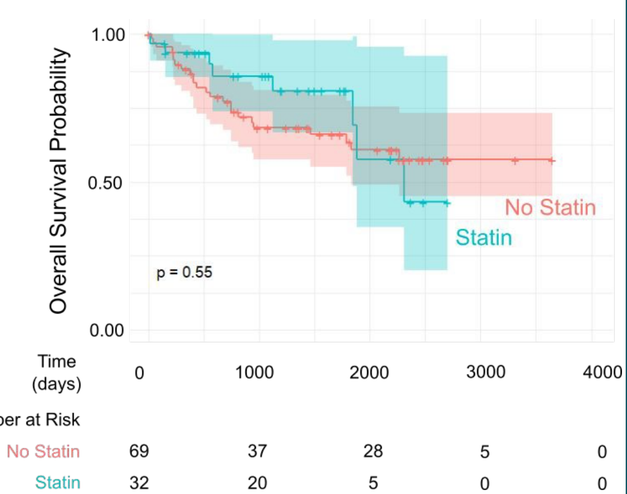
Methods

- Retrospective cohort study of adult females treated with anthracyclines in a community setting comparing statin users vs. non-statin users
- 1:1 propensity score matching (PSM) was used to account for baseline differences. Matching covariates included age, BMI, smoking status, hypertension, diabetes, hyperlipidemia, CKD, and PAD.
- Primary outcome: time to MACE, which includes 4-point MACE
- Secondary outcome: time to all-cause mortality.
- Kaplan-Meier survival analysis were used to assess outcomes in matched and unmatched cohorts.

Baseline Characteristics

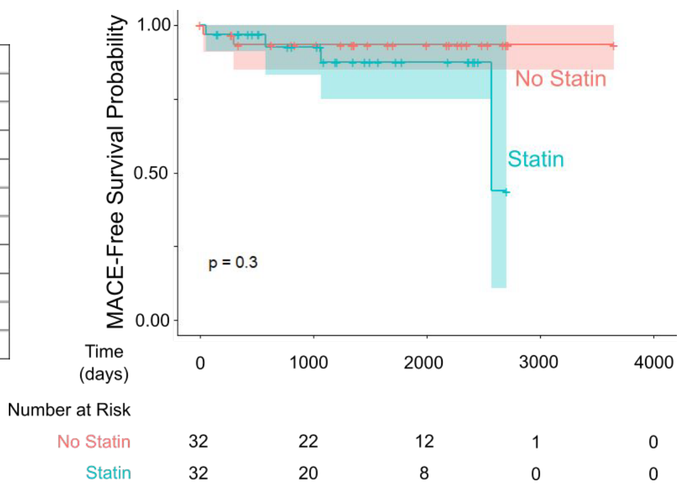
	Anthracycline Cohort		
Variable	- Statin	+ statin	P-value
n	69	32	
Mean age years (SD)	59.28 (10.75)	63.41 (8.42)	0.058
Mean BMI kg/m^2 (SD)	30.58 (8.19)	32.16 (7.50)	0.342
Smoking (%)	29 (42%)	20 (62.5%)	0.089
Hypertension (%)	25 (36.2%)	19 (59.4%)	0.049
Diabetes (%)	3 (4.3%)	19 (59.4%)	0.001
Hyperlipidemia (%)	13 (18.8%)	23 (71.9%)	<0.001
CKD (%)	4 (5.8%)	2 (6.2%)	1
PAD (%)	0 (0%)	1 (3.1%)	0.692

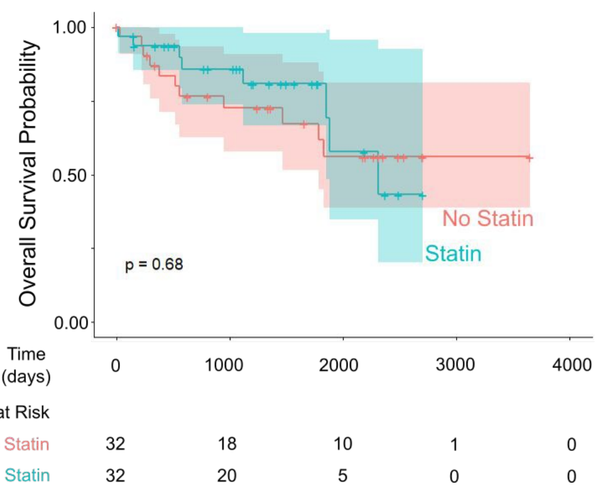




1:1 PSM Characteristics

	Anthracycline Cohort		
Variable	- Statin	+ statin	P-value
n	32	32	
Mean age years (SD)	62.88 (10.17)	63.41 (8.42)	0.821
Mean BMI kg/m^2 (SD)	31.31 (8.9)	32.16 (7.50)	0.680
Smoking (%)	23 (71.9%)	20 (62.5%)	0.594
Hypertension (%)	13 (40.6%)	19 (59.4%)	0.211
Diabetes (%)	3 (9.4%)	10 (31.2%)	0.062
Hyperlipidemia (%)	12 (37.5%)	23 (71.9%)	0.012
CKD (%)	1 (3.1%)	2 (6.2%)	1
PAD (%)	0 (0%)	1 (3.1%)	1





Discussion

- PSM analysis in a community setting suggested that statin therapy did not significantly improve MACE-free survival probability or overall survival probability in female patients receiving anthracyclines.
- Protective of mechanism in this population may be limited to primary prevention of anthracycline-induced cardiotoxicity

Limitations

- Preliminary data analysis
- Small sample size
- Non-stratified population (eg. HFA-ICOS Cardio-Oncology cardiovascular risk assessment tool) without baseline echocardiogram or cardiac biomarkers
- Unmeasured confounding

Conclusion

- Statin therapy did not significantly improve MACE-free survival probability or overall survival probability in female patients receiving anthracyclines.

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