

Is Metabolic Syndrome Associated with Decreased Survival in African American Breast Cancer Patients?

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BACKGROUND

- Breast cancer is the most common cancer in women with an estimated 268,600 new cases projected to occur in 2019 with 41,760 breast cancer specific deaths¹.
- Although the incidence of breast cancer is higher in Caucasian patients, breast cancer specific mortality is higher in African American (AA) patients.
- Metabolic syndrome is defined as a constellation of metabolic dysfunctions including obesity, dyslipidemia, hypertension, and insulin resistance². It has been associated with increased risk of chronic diseases including coronary artery disease, stroke, diabetes, and cancer².
- The prevalence of obesity is higher among AA women compared to Caucasian women³.
- The objective of this study was to assess if the presence of metabolic syndrome or specific medical comorbidities were associated with decreased survival in African American breast cancer patients in Delaware.

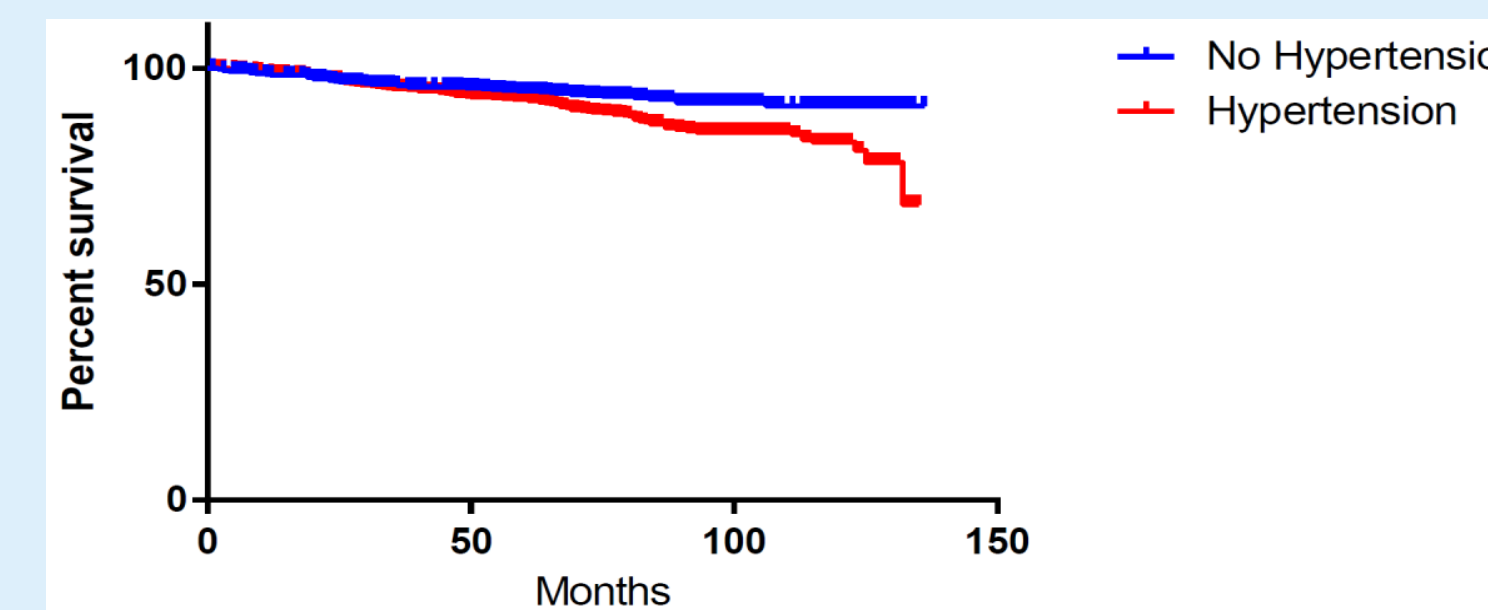
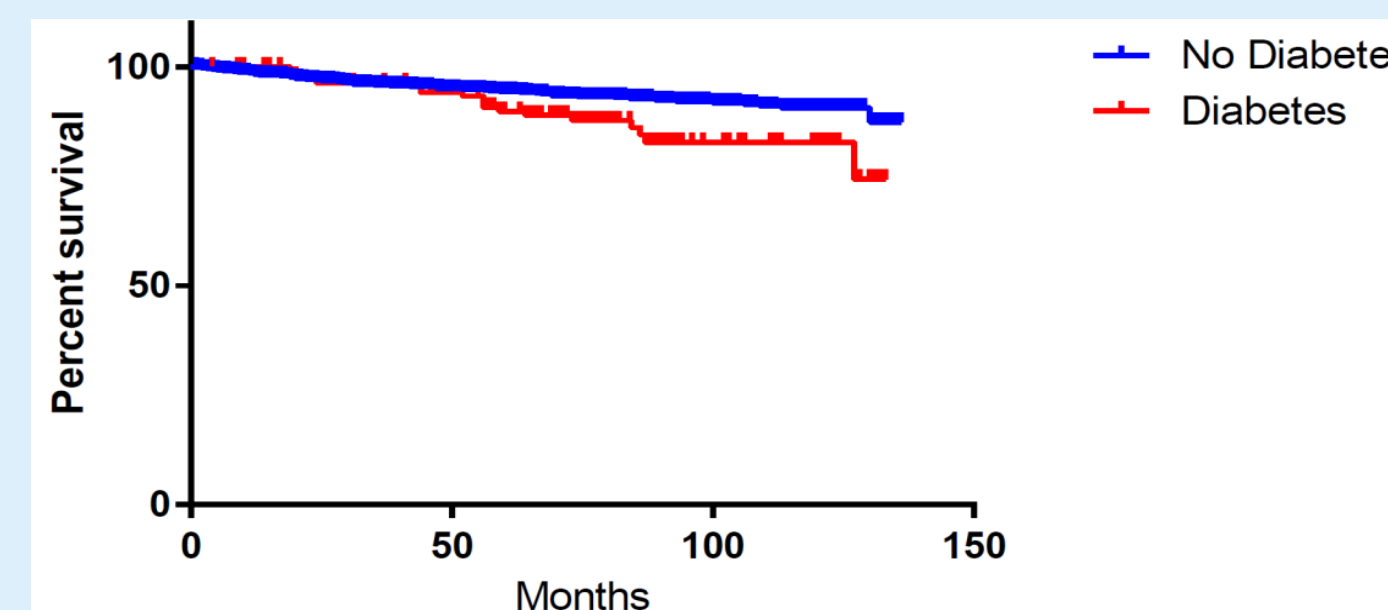
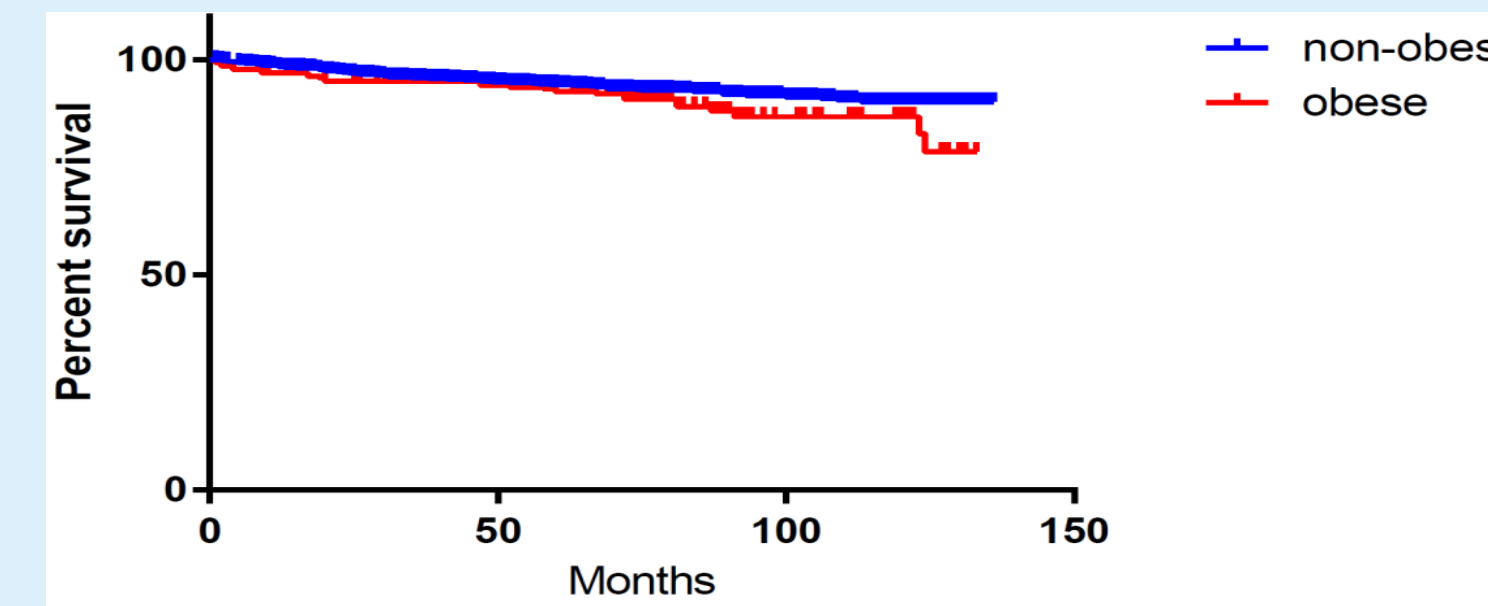
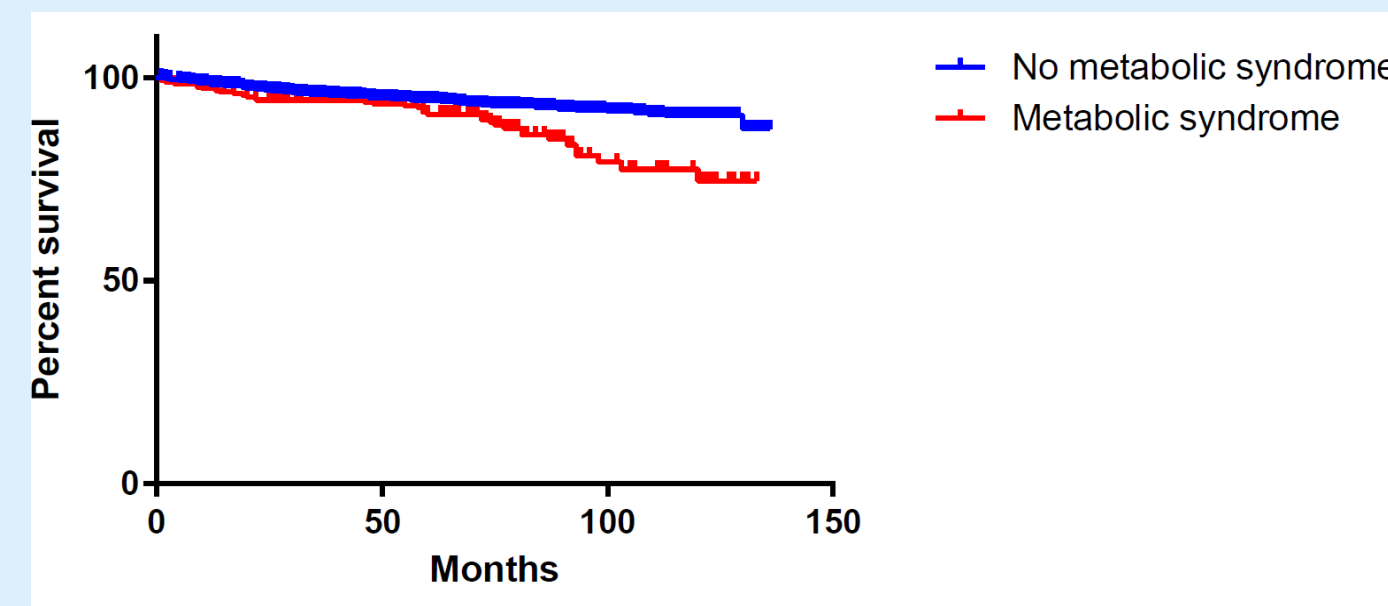
METHODS

- A retrospective database review from the HFGCCRI cancer registry was performed after receiving Christiana Care Health System Institutional Review Board Approval from 2006-2010.
- Data from a total of 1672 breast cancer patients, 281 AA patients, were used for investigation. 28 patients designated as other race were excluded from analysis, leaving a total of 1644 patients.
- All patient comorbidity data, including hypertension, diabetes, and obesity defined as BMI>30, were analyzed using chi square analysis (P<.05) and log-rank-Mantel Cox for survival.
- Metabolic syndrome was defined as having hypertension, diabetes, and obesity.

RESULTS

- Breast cancer survival is twice as high in Caucasian patients as AA (P.0001, HR 2.63 95% CI 1.968-6.609).
- Patients with hypertension or diabetes had worse breast cancer specific survival (p=.037).
- There was a higher incidence of hypertension, diabetes and obesity in AA patients, however there was no difference between races in breast cancer survival.
- Patients with metabolic syndrome have worse survival (P=.02, Log-rank-mantel cox), and although there was a higher incidence of metabolic syndrome in AA patients, there was no difference in breast cancer specific survival between the races.

Comorbidities	Caucasian	African American
Hypertension	47%	59%
Diabetes	12%	20%
Obesity	38%	59%
Hyperlipidemia	35%	31%



CONCLUSIONS

- In our study all patients with hypertension, diabetes and/or metabolic syndrome had worse breast cancer specific survival.
- Although AA patients were more likely to have metabolic syndrome, there was no difference in breast cancer specific survival for patients with metabolic syndrome based on race.
- Continued investigation of modifiable risk factors for AA patients to improve breast cancer specific survival is ongoing.
- Increased risk of developing breast cancer in patients with metabolic syndrome has been established in the literature.
- Our study demonstrates worse breast cancer specific survival further supporting the need to focus on management and prevention of obesity and associated comorbidities to improve breast cancer specific survival.

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