

# ABSTRACTS • 42<sup>nd</sup> Annual Meeting • American Society of Preventive Oncology, Roosevelt Hotel, New York, New York, March 11-13, 2018



The following are the 17 highest scoring abstracts of those submitted for presentation at the 42nd Annual ASPO meeting held March 11-13, 2018, in New York, NY.

## Overall and Visceral Adiposity Are Associated with Incident Cardiovascular Disease among Breast Cancer Patients: Results from the B-SCANS Study

Cespedes Feliciano EM, Chen WY, Kroenke CH, Bradshaw PT, Alexeeff S, and Caan BJ

It is assumed that total and visceral adiposity increase cardiovascular disease (CVD) risk among breast cancer survivors; yet, these associations have not been studied, and could differ from non-cancer populations due to the modifying effects of cancer treatment. **METHODS:** We studied 2,630 Stage I-III breast cancer patients without pre-existing CVD diagnosed at Kaiser Permanente (2006-2013). We quantified body composition from computed tomography scans taken at breast cancer diagnosis. The main exposures were total and visceral adiposity indices (cm<sup>2</sup>/m<sup>2</sup>), examined in tertiles. From ICD codes, we identified non-fatal stroke, coronary artery disease (CAD), and heart failure, and a composite outcome including CVD death (CVD). We estimated hazard ratios (HR) and 95% confidence intervals (CI) adjusting for age, smoking, tumor (stage, grade, and ER/PR and HER2 status) and treatment (chemotherapy and/or radiation) factors, skeletal muscle index (SMI), and body mass index (BMI) residuals. We assessed effect modification via product terms of adiposity with age ( $\geq$ / $<$ 55 years), sarcopenia (SMI $\geq$ / $<$ 40 cm<sup>2</sup>/m<sup>2</sup>) and chemotherapy (yes/no). **RESULTS:** At diagnosis, mean (SD) age was 55 (11) years and BMI was 28 (6) kg/m<sup>2</sup>. Over a maximum follow-up of 11 years, 669 CVD events occurred. Independent of BMI and other covariates, women in the highest (v. lowest) tertile of total adiposity had a higher risk of CVD, heart failure, stroke and CAD; HRs (95%CI) were 1.45 (1.15-1.81), 1.78 (1.24-2.57), 1.89 (1.25-2.87), and 1.52 (0.83-2.79), respectively. Results were similar for visceral adiposity, and by age and sarcopenia, but were stronger for women receiving chemotherapy: e.g., the HR (95%CI) for the highest (v. lowest) tertile of total adiposity with CVD risk was 1.76 (1.33-2.33) for women who received chemotherapy versus 0.93 (0.63-1.38) for women who did not,  $p$ -interaction = 0.04. **CONCLUSIONS:** Women who enter a breast cancer diagnosis with greater total and visceral adiposity are at higher risk of subsequent CVD, particularly if they receive chemotherapy. Our results suggest that body composition - independent of BMI and other factors - can identify patients with high CVD risk for additional monitoring, tailored treatment plans and targeting of preventive interventions.

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## Breast Density and Risk of Invasive Breast Cancer among Older Women Undergoing Mammography: The Breast Cancer Surveillance Consortium Cohort Study

Braithwaite D, Miglioretti DL, Zhu W, Demb J, Trentham-Dietz A, Sprague B, Tice JA, Onega T, Henderson LM, Buist DSM, Walter LC, Kerlikowske K

This study examined whether breast density is associated with risk of breast cancer in women age  $\geq$ 65 years undergoing screening mammography in community practice. **Methods:** We used prospective cohort data between 1996 and 2012 from the Breast Cancer Surveillance Consortium (BCSC). We calculated separate cumulative incidence models for breast cancer incidence according to Breast Imaging Reporting and Data System (BI-RADS) breast density for women ages 65-74 and ages  $\geq$ 75. Multivariable Cox proportional hazards regression models were fitted to determine the risk of invasive breast cancer adjusted for BCSC registry, race/ethnicity, BMI, hormone therapy use and benign breast disease. **Results:** Among the 403,268 women included in the study, approximately 40% were ages  $\geq$ 75. The annual incidence rate of invasive breast cancer increased with increasing breast density among women ages 65-74 [BI-RADS fatty breasts: 2.2% (95% CI, 2.1%-2.4%) vs. heterogeneously or extremely dense breasts: 4.7% (95% CI, 4.6%-4.9%)] and women ages 75+ [BI-RADS fatty breasts: 2.3% (95% CI, 2.1%-2.5%) vs. heterogeneously or extremely dense: 4.3% (95% CI, 4.1%-4.5%)]. Women with BI-RADS fatty breasts had a decreased risk of breast cancer among women ages 65-74 [HR: 0.66 (95% CI: 0.58%-0.78%) and women ages  $\geq$ 75 [HR: 0.73 (95% CI: 0.62%-0.87%)]. Women with BI-RADS heterogeneously or extremely dense breasts were found to have increased risk of breast cancer among women ages 65-74 [HR: 1.39 (95% CI: 1.28%-1.51%)] and women ages  $\geq$ 75 [HR: 1.23 (95% CI: 1.10%-1.37%)]. **Conclusions:** Older women with higher BI-RADS density had a significantly increased risk of breast cancer. These findings add further evidence that breast density continues to be associated with an increased risk of breast cancer, even among women age  $\geq$ 75 years.

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## Pre-treatment Dietary Patterns Are Associated with the Presence of Symptoms 1 Year after Diagnosis in Patients with Head and Neck Cancer

Crowder SL, Mondul AM, Tang YC, Pepino MY, Sarma KP, Rozek LS, Wolf GT, Arthur AE

Ninety percent of head and neck cancer (HNC) survivors experience disease and treatment related symptoms. Diet has the

# Cancer Epidemiology, Biomarkers & Prevention

## Breast Density and Risk of Invasive Breast Cancer among Older Women Undergoing Mammography: The Breast Cancer Surveillance Consortium Cohort Study

D Braithwaite, DL Miglioretti, W Zhu, et al.

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