Factors Affecting Informed Decision-Making in Women with Increased Breast Cancer Risk or DCIS Pursuing Contralateral Prophylactic Mastectomy

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Despite lack of survival benefit, an increasing number of women diagnosed with ductal carcinoma in situ (DCIS) opt for removal of the unaffected breast in addition to the breast with known pathology, i.e. contralateral prophylactic mastectomy (CPM). Little is known about women's decision-making processes that contribute to this rising trend, particularly for DCIS. Further obscuring the decision is the highly variable terminology used to discuss breast cancer pathologies and treatments. The purpose of this study was to investigate factors impacting risk comprehension and decision-making related to increased risk for breast cancer or DCIS. We conducted a retrospective and prospective pilot study to evaluate women's perceived contralateral breast cancer risk, health literacy, numeracy, and comprehension of terms used in genetics and breast cancer. Clinical data such as breast MRI, genetic testing, family history, and breast cancer risk derived from predictive models were also collected. Women with DCIS and those high-risk for development of invasive breast cancer were eligible, and 68 patients participated. Of the cohort, 33 (48.5%) women considered pursuing CPM and 11 (16.2%) underwent CPM. Anxiety about cancer recurrence was the top reason for considering CPM. Undergoing CPM was significantly associated with plastic surgery consultation, increased 10-year breast cancer risk, genetic counseling, and genetic testing. The consideration of CPM was also associated with higher incomes. Numeracy, health and genetic literacy, and terminology scores were not significant predictors of CPM. Lastly, 83.8% of respondents stated DCIS qualified as breast cancer, but only 39.7% of patients correctly defined DCIS. When asked to interpret the phrase "indolent lesion of epithelial origin" (new terminology advocated to replace "DCIS"), 27.9% of respondents believed it referred to cancer, 47.1% did not, and 23.5% were unsure. Patients commonly thought "lesion" meant "skin wound" or "sore". Decision-making related to DCIS remains complex. Although CPM has not shown a survival advantage and can have significant complications, CPM rates continue to rise. Recognizing patients' knowledge of risk communication and terminology is vital to support shared and informed surgical decisions.

The Effect of Weight Change on Volumetric Measures of Mammographic Density

Hart V, Reeves KW, Sturgeon SR, Reich NG, Sievert LL, Kerli-kowske K, Ma L, Shepherd J, Tice J, Sprague BL

The association between changing body mass index (BMI) and mammographic breast density is important to better evaluate how to adjust for BMI gain/loss in longitudinal studies of density and breast cancer risk. Increasing BMI has been associated with decreasing percent dense area but the effect on absolute dense area is unclear. No studies have explored a longitudinal association using volumetric density measurement. Methods: We examined the association between change in BMI and change in volumetric breast density among 24,556 women who received breast imaging at the San Francisco Mammography Registry from 2007–2013. Height and weight were self-reported at the time of mammography. Breast density was assessed using single x-ray absorptiometry (SXA) volumetric measurement. The cross-sectional and longitudinal associations between BMI and absolute dense volume (DV) and percent dense volume (PDV) were assessed using multivariable adjusted regression. Results: Women were primarily Caucasian (66%) or Asian (25%) and most were postmenopausal (64%) at time of first mammogram. In cross-sectional analysis, BMI was positively associated with DV ($\beta = 2.95$ cm3, 95% CI, 2.69–3.21) and inversely associated with PDV ($\beta = -2.03\%$, 95% CI, $-2.09-$-1.98). In longitudinal analysis, an annual increase in BMI was associated with an annual decrease in both DV ($\beta = -1.01$ cm3/year, 95% CI, $-1.59-$-0.42) and PDV ($\beta = -1.17\%$/year, 95% CI, $-1.31-$-1.04). Findings were consistent between pre- and postmenopausal women. The annual decrease in DV was strongest among premenopausal women who were initially overweight or obese ($P < 0.01$ for interaction by initial BMI). Conclusion: Our findings support an inverse association between change in BMI and change in PDV. Longitudinal studies of PDV and breast cancer risk, or those using PDV as an indicator of breast cancer risk, should consider adjusting for change in BMI. The association between increasing BMI and decreasing DV is unexpected and will require confirmation using volumetric methods.

Depression and Antidepressant Use in Relation to Breast Cancer Risk in the Nurses Health Study

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Depression and antidepressant (AD) use have each been hypothesized to increase breast cancer risk, yet previous studies have not considered these exposures together. Thus, it is unclear whether increased risk due to depression may actually be attributable to AD use, or vice versa. Methods: We utilized data from 77,482 women enrolled in the prospective Nurses' Health Study cohort in which data on depression and AD use were collected simultaneously beginning in 2000. Women self-reported whether they had ever been diagnosed with depression by a clinician as well as their use of specific types of ADs. Self-reported breast cancer cases through 2012 were adjudicated and only confirmed invasive cases included as outcomes ($N = 2,567$). Logistic regression models were utilized to evaluate the effects of baseline depression and AD use, both independently and with mutual adjustment, on breast cancer risk. Results: The average age of participants was 66.2 (SD 7.1) years; 8.9% were clinically depressed and 8.7% used ADs. In separate models adjusted for age, body mass index, and menopausal status, we observed no statistically significant associations between depression (OR

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