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Article in *International Journal of Epidemiology* · October 2015

DOI: 10.1093/ije/dyv096.021

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INTRODUCTION: Mammographic density (MD) is one of the strongest determinants of breast cancer (BC). In this study, we compared MD in BRCA1/2 carriers and non-carriers from BRCA1/2 families and investigate the association between MD and BC among BRCA1/2 carriers per type of mutation and tumor subtype.

METHODS: The study was carried out in female members of BRCA1 and BRCA2 mutation-positive families seen in 16 Spanish Genetic Counseling Units. A total of 1039 women signed the informed consent and answered the questionnaire. Mammograms from 353 BRCA1-carriers, 360-BRCA2 carriers and 247 non-carriers were available and read by a single radiologist using a 5-category scale of MD (<10%, 10–25%, 25–50%, 50–75% and >75%). MD distribution in carriers and non-carriers was compared using ordinal logistic models, adjusted for age, BMI, menopause, parity, type of image and subsequent BC development. The association between MD and BC in BRCA1/2 carriers was studied using logistic regression models, adjusted for age, BMI, menopausal status, parity, type of image, time elapsed from mammogram to BC diagnosis (cases) or end of follow-up (non cases). Huber-White robust estimators of variance were used to take into account correlations between family members. A similar multinomial model was used to explore this association by BC subtype.

RESULTS: The probability of having high MD was lower among BRCA2-carriers (OR = 0.70; p-value = 0.031). However, MD was associated with subsequent BC (OR per category of MD: 1.41; 95% CI 1.15–1.73) and no differences were seen between BRCA1 and BRCA2 carriers (p-value = 0.69). The association was stronger among women who had taken oral contraceptives (OR = 1.54; 95% CI 1.22–1.95). Regarding BC subtypes, no statistically significant differences were observed, but the OR was higher for triple negative tumors (OR: 1.51; 95% CI 1.12–2.15).

CONCLUSIONS: BRCA1/2 carriers do not present higher MD, but our work confirms that MD is also a phenotype risk marker in these women.

Grants: FIS_PS09/01006;FIS_PS09/01024;FIS_PS09/01721

Poster Number: S21 Abstract #: 1511
**Mammographic Density and Breast Cancer in
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