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Burden of gene mutations in caribbean women with breast cancer

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Purpose of Study: Identifying mutations in breast cancer genes (BRCA1/2, PABL2) has important clinical implications on a woman's lifetime susceptibility for breast cancer development. Nearly 10% of immigrants to the United States come from the Caribbean and few studies exist that examine breast cancer gene mutations in African-Caribbean women with existing breast cancer. The purpose is to review breast cancer epidemiology statistics and prevalence of breast cancer genetic mutations in this cohort.

Summary of Results: Although breast cancer cumulative incidence risk of Caribbean women (5-9%) appear to be less than that of the US women (10%), the cumulative mortality risk in the Caribbean cohort (up to 2.7%) appears greater than that of the US (1.6%). Through a PUBMED literature search, we have also identified five cross-sectional cohort studies on breast cancer patients of Caribbean women who have undergone genetic mutation testing for BRCA1/2 and PALB2 with 27% cases in Bahamas (N=214 women); 2.8% cases in Jamaica (N=179 women); 10.4% cases in Trinidad/Tobago (N=268 women); none in Barbados (N=118 women); 2.6% in Cuba (N=307 women). No study accounted for ascertainment bias.

Conclusions This study summarizes the estimate of breast cancer incidence and mortality in Caribbean women and known prevalence of BRCA1/2 and PALB2 breast cancer gene mutations in this cohort. This is critical as part of a formal genetic risk assessment and counseling of patients with breast cancer. Further research and understanding the contributions of inherited gene mutations will guide the optimal health policy in breast cancer screening and risk management.

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