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Burden of BRCA1, BRCA 2 and PABL2 gene mutations in caribbean women with breast cancer

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Purpose: Identifying mutations in breast cancer genes (BRCA1, BRCA2, PABL2) has important clinical implications on a woman's lifetime susceptibility to 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 specifically describe breast cancer epidemiology statistics and review prevalence of BRCA mutations in this cohort.

Methods: Epidemiologic data on select Caribbean countries and USA was abstracted from GLOBOCAN 2012, a database of estimated global cancer statistics produced by the International Agency for Research on Cancer and World Health Organization. Sex-specific age standardized incidence and mortality rates for breast cancer in specific countries are presented in Table 1. A Literature Search was also conducted through PubMed database using following terms: Caribbean , (familial breast cancer), (hereditary breast cancer), and (BRCA breast cancer) that was subsequently narrowed to epidemiologic relevance resulting in five citations.

Results:

Table 1: Breast Cancer Incidence and Mortality Data – Data from GLOBOCAN 2012

COUNTRY	INCIDENCE		MORTALITY	
	ASR	CUMULATIVE RISK % (AGE BIRTH TO 74 YEARS)	ASR	CUMULATIVE RISK % (AGE BIRTH TO 74 YEARS)
BAHAMAS	98.9	9.52	26.3	2.71
BARBADOS	94.7	9.75	22.1	2.41
CUBA	50.4	5.59	16.5	1.87
JAMAICA	55.8	5.89	18.6	2.05
TRINIDAD AND TOBAGO	56.9	5.80	23.5	2.59
USA GLOBOCAN	92.9	10.13	14.9	1.63

ASR indicates age standardized world rate per 100,000. Cumulative risk [0-74], percent
GLOBOCAN 2012, IARC -5.11.2017

Conclusions: The Globocan 2012 data provides an estimate of breast cancer incidence and mortality in Caribbean women. This study summarizes the known prevalence of BRCA1/2 and PALB2 breast cancer gene mutations in select Caribbean cohorts. This is critical as part of a formal genetic risk assessment and counseling of patients with breast cancer, particularly in areas that serve a Caribbean population. Further research and understanding the contributions of inherited gene mutations will guide the optimal health policy in breast cancer screening and risk management.

Biography

Gordon Taylor Moffat has his experience in Life Sciences with Honors in Biology with training in Radiology. His passion for science and an interest in microbiology lead him to pursue and obtain a Doctor of Medicine. Currently, he is working at the State University of New York Brooklyn Health Sciences Center in Internal Medicine and the forthcoming Medicine Chief Resident. His professional interests include Medical Oncology, Hospice and Palliative Medicine, and Geriatric Medicine. He is currently working on research projects at Memorial Sloan Kettering Cancer Center in Manhattan, New York that is expected to be published. He is also a candidate for the Alpha Omega Alpha Honor Medical Society Postgraduate Fellowship.

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