ASSOCIATION OF THE JOINT EFFECT OF MENOPAUSE AND HORMONE REPLACEMENT THERAPY AND RISK OF CANCER IN AFRICAN AMERICAN WOMEN: THE JACKSON HEART STUDY

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Abstract: Cancer is the second leading cause of death in the US (and Mississippi), with over 500,000 deaths occurring annually in the US. Breast cancer is the most common cancer among women and the underlying pathophysiology remains unknown, especially among African American (AA) women. The Jackson Heart Study (JHS), an observational cohort study, designed to understand the etiology and progression of cardiovascular disease (CVD) in AAs, has a wealth of reproductive health and co-morbidity data, including cancer. The purpose of this study was to examine the joint relationship of menopause status (MS) and hormone replacement therapy (HRT) on the association with cancers, with particular interest in breast cancer. The analytic sample consisted of 3202 women between the ages of 35 and 84 years; of which 73.7% were postmenopausal. Descriptive statistics were obtained to describe sample characteristics. Multiple logistic regression analyses were used to assess the relations between breast cancer and MS and HRT adjusting for the following covariates: age, educational level, family history of breast cancer, contraceptive use, and body mass index (BMI). Of the self-reported prevalent cancer cases in JHS, 48% were breast cancer; and 22.7% were on HRT. Though HRT was not significantly associated with cancer (OR=0.72; 95% CI: 0.50, 1.03), the age-adjusted association of menopause and cancer (OR=1.71; 95% CI: 1.05, 2.77) was slightly strengthened (OR=1.88; 95% CI: 1.14, 3.09). However, this association was attenuated in the multivariable model (OR=1.71; 95% CI: <1.00, 2.93; p=0.051). Breast cancer was significantly associated with menopausal status and HRT, with significant difference between the pre-menopause and post-menopause controlling for HRT groups (OR=2.52, 95% CI=1.12, 5.70). The joint effect of menopause and HRT suggest that AA women who were menopausal and were on (not on) HRT had a 3.53 [95% CI: 2.29, 5.46] (2.25 [95% CI: 1.34, 3.78]) times odds of having cancer compared to pre-menopausal women after adjusting for age. Some known key CVD risk factors are related to cancer development. Though hormone therapy is believed to provide effective relief for the symptoms attributed to menopause, data have demonstrated that the risk of breast cancer could be increased by prolonged use of HRT in women.

Key words: Cancer, Breast Cancer, Hormone, Menopausal, Jackson Heart Study

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