Risk Factors of Breast Cancer in Bahrain

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Background: Breast cancer is the most common cancer in females worldwide, and the second leading cause of cancer deaths in women. It is accounting for 32% of all cancers. It is well known that gender, age, past history of malignancy, family history of malignancy, prolonged uninterrupted exposure to estrogen are recognized risk factors of breast cancer. Few studies on risk factors in Bahrain were performed.

Objective: To assess the primary risk factors of breast cancer in patients living in Bahrain.

Setting: All patients operated by the two senior authors in Salmaniya Medical Complex and Ibn Al-Nafees hospitals in Bahrain.

Design: Prospective study.

Method: A clinical review of 105 breast cancer patients performed from August 1999 to September 2008. Bahraini and non-Bahraini patients are included. Presentation, diagnostic approach, and management were evaluated. Characteristic data included were age at presentation, age at menarche and menopause. Other factors age at first full term pregnancy, history of lactation, history of using hormonal replacement therapy, history of using oral contraceptive pills, past personal history of malignancy and, type of malignancy, family history of breast cancer.

Result: One hundred and five patients, all were females. The age of patients at diagnosis was categorized as follows: less than 35 years old were 10 patients (9.5%), 35-45 years were 33 patients (31.4%), 46-55 years were 30 patients (28.6%) and more than 55 years old were 32 patients (30.5%).

Twenty patients had early menarche (19%), 3 patients (2.8%) had late menopause. Twenty patients were nulliparous (19%). Six patients (5.7%) had their first delivery at an age of more than 30 years while those who had their first delivery at less than

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30 years of age were 79 patients (75.2%). Lactation history was negative in 27 patients (25.7%). Twenty-one patients (20%) used Oral Contraceptive Pills (OCP) for long periods. Two patients (1.9%) only were on Hormonal Replacement Therapy (HRT). Two patients (1.9%) had positive past personal history of malignancy (breast and ovaries). Twenty-two patients (20.9%) had positive family history of breast cancer.

**Conclusion:** Almost 70% of our patients were below or equal to 55 years at presentation. Family history was found significantly higher in our patients (20.9%).

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Breast cancer is unlike lung cancer, in which smoking is the primary cause. Breast cancer has large number of epidemiological factors which will increase the risk.

These risk factors could provide important clues to the etiology of breast cancer.

Advancing age is one of the most important factors. It was found that breast cancer incidence and death rates generally increase with age. From 2001-2005, the median age at diagnosis for breast cancer in US females was 61 years of age. Approximately 0.0% was diagnosed under age 20, 1.9% between 20 and 34, 10.6% between 35 and 44, 22.4% between 45 and 54, 23.3% between 55 and 64, 19.8% between 65 and 74, 16.5% between 75 and 84 and finally 5.5% in 85 years of age and above\(^1\).

Personal history of previous breast cancer is a risk factor for cancer recurrence or the development of a new primary breast cancer, the risk is 19% according to the study by Hiramanek\(^2\).

The probability of a woman aged 20 years to develop breast cancer by the age of 80 with no affected relatives is 7.8%, with one affected relative is 13.3% and with two affected relatives is 21.1%\(^3,4\).

The prolonged uninterrupted exposure to estrogens such as early menarche, late menopause, nulliparity, late pregnancy (after the age of 30), absence of history of lactation, the use of hormonal replacement therapy (HRT), the use of oral contraceptive pills (OCPs) are considered risk factors\(^5\).

Other environmental factors such as alcohol intake and exposure to radiation may play a role\(^5\).

Aetiology is unknown in 95% of breast cancer cases, while approximately 5% of new breast cancers are attributable to hereditary factors. Carriers of the breast cancer susceptibility genes (BRCA1 and BRCA2) are at 30-40% increased risk for breast and ovarian cancer\(^6,7,8\).

Another study confirmed that increased risk of developing breast cancer at an earlier age was seen in those who are having family history of breast cancer. The mutation in BRCA1 and BRCA2 might explain these findings\(^9,10\).