SPECIAL PAPER

Prevention of Male Breast Cancer

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ABSTRACT

Introduction: Breast cancer is a disease that concernsboth women but and men. Today, we have fully understood the creation and the mechanism at the molecular level of breast cancer; we can improve the therapeutic interventions against the disease.
Aim: The purpose of this retrospective study was to investigate the factors which increase the risk of breast cancer in men, and their prevention, as they recorded through the critical exploration of the literature.
Methodology: The research method includes electronic databases (Medline, Cinahl, and IATROTEK) for a review of the literature from 1997-2012, a classic literature search in scientific literature articles and studies from libraries also conducted. In total of 58 studies only 33 were selected. The criteria for selecting studies were the following: a) articles written in Greek and English, and b) articles which referred to the type of cancer.
Results: The key to a successful fight against breast cancer is the early detection and diagnosis of the disease in the context of prevention and effective response, fact which is highlighted in this retrospective study.
Conclusions: Although early detection is not a cure, it increases the chances for longevity of the patient. For this reason men should get the knowledge which is the most important weapon for life.

Keywords:breast cancer,male breast cancer,diagnosis, prevention

Introduction

Breast cancer has been studied more than any other malignancy, even by doctors of ancient Greece and Byzantium. Some historians even argue that breast cancer was the standard study of malignant disease, because of its frequency and the surface position. The metaphor of disease to the animal cancer is the most exact representation of the case of the breast (Rousaki, 2006; Malliou et al., 2006).

Breast cancer is a form of neoplasia, which concerns both sexes. As to gender, breast cancer is rare in men, whereas in women breast cancer have an increased frequency worldwide, as well and in the Greek

population (Lavdaniti et al., 2006; Lavdaniti, 2007). Although the role of a large number of factors considered justified in the etiology of breast cancer, this knowledge unfortunately does not translate directly to the ability to take effective measures for the prevention of breast cancer (Lagiou, 2008).

Purpose

The purpose literature reviewwas the investigation of the factors which increase the risk of breast cancer in men, and their prevention, as they recorded through the critical exploration of the literature

Material and Methods

The research method includes electronic databases (Medline, Cinahl, IATROTEK) for a review of the literature from 1997-2012, a classic literature search in scientific literature articles and studies from libraries also conducted. Key words that used were "breast cancer", "male breast cancer", "diagnosis" and "prevention ".Totally found 58 studies of which 33 were selected. The criteria for selecting studies were the following:

a) articles written in Greek and English, and

b) articles which referred to the type of cancer.

To find the relevant to topic surveys and studies, initially, conducted, a study of abstracts of all articles to arise those which were finally selected to be analyzed.Became as well careful exploration of bibliographical references of articles in order to identify more and better information on the subject and to exclude cases of biased research.

Male breast Cancer.Frequency and age occurrence.

Cancer of the male breast may be very rare, but it is a health problem for men. Represents 1% of cancers that occurs in men, compared with that of women and about 0.2% of all cancers reported in the male population (Giordano et al., 2004; Xia et al., 2011).

The frequency of the disease is higher among men of the black race and even higher in men of the Jewish race (Pitsinis&Constantinidis, 2012).

The disease seems to follow an upward trend with age. The average age of occurrence is approximately 60 to 70 years old for men; while for women average age is 50 years (Anderson et al., 2004; Korde et al., 2010). Internationally Greece holds a middle position in the frequency, impact and mortality of breast cancer (Dardavesis, 2009).

Prognosis of male breast cancer

The prognosis it depends on the size of the tumor, the presence of lymph node metastases and other histological tumor characteristics. In substance there is no difference from the prognosis of cancer in women, in the same stage (Bloom et al, 2001). The prognosis of breast cancer is poorer in men than in women. The 5-year and 10-year survival for clinical stage I breast cancer in men is about 58% and 38% respectively. For the clinical phase II, 5 year and 10 year survival is around 38% and 10%. The survival for all stages is 36% 5-year and 17% the 10-year survival. (Giordano et al, 2002). It should be noted that the prognosis, even in Phase I, is worse for men than women. These metastases are usually present when the male patient is shown for the initial response. These metastases may occur later on or not occur at all for many years. Moreover, as in women, hormonal effects usually associated with the occurrence of male breast cancer (Borgen et al., 1997).

It must to be noted that early detection, in several cases, has improved due to the practice ofself-examination from the same patients. According to improved prognosis, mortality from breast cancer has remained broadly stable in many populations despite the increasing incidence of the disease (Lagiou, 2008; Lavdaniti, 2009).

Diagnosis of male breast cancer

The diagnosis was made as in women, by clinical examination, the imaging evaluation with mammography and ultrasound and cytologic or histologic examination of a sample of the tumor, obtained by puncturing with a needle. (Lavdaniti et al, 2010). The examination usually reveals a hard, ill-defined, non-sensitive mass beneath the nipple or areola. Breast cancer in men is usually accompanied by Gynecomastia. The secretion of the nipple is an uncommon occurrence of breast cancer in men. However, it may be an attendant finding of carcinoma in 75% of cases (Kourkouta, 2010). The staging of also breast cancer is the same as in men and women. Gynecomastia and metastatic cancer from other primary (e.g. prostate) must be included in the differential diagnosis of a lesion in the breast of a man. The gynecomastia in men, i.e. the increase in breast size, not predispose to breast cancer (Gomez-Raposo et al., 2010).

Cancer usually appears in one breast - there's a 1% -3% which appears in both - while not usually swells the whole breast but the swelling is more eccentric. A biopsy establishes the diagnosis (Giordano, 2005).

Risk factors of male breast cancer

It is estimated that 5-10% of all breast cancers can be attributed to high mutations. Genes BRCA1 and BRCA2, high shrillness mutations, as those of p53, CHEK2 and PTEN/MMAC1, are responsible for a significant percentage of familial breast cancer, but a small percentage of all cases of the disease (Weber &Nathanson, 2000; Fentiman et al., 2006).

The BRCA1 gene is located on chromosome 17q21, the physiological role of the mechanisms associated with repair of DNA and acts as a tumor suppressor gene. The BRCA2 gene is located on chromosome 13q12 and mutations associated with early onset breast cancer in both women and men. The frequency of BRCA1 mutations in high-risk families is 20-80% (Likaki, 2009). People who inherit a mutated copy of a BRCA gene are at higher risk of developing certain types of cancer, including breast cancer in men and women and ovarian cancer in women (Raposo et al., 2010).

Individuals with mutations in these genes have a risk factor (40-80%) of developing breast cancer in their lifetime (Likaki, 2009). In men with breast cancer has been observed that the BRCA2 mutations very often exhibit - according to statistics and 40% -50% of cases. In contrast to women, abnormalities of the gene BRCA1 gene, associated with breast cancer, while in men with abnormal gene is not observed (Friedman et al, 1997). The identification and the study of genes BRCA 1 and BRCA 2, which are associated with familial breast cancer, highlighted the importance of family history in assessing the potential risk of breast cancer (Narod, 2004). Therefore, family history is a very important risk factor for patients with breast cancer. Men in families where many women have breast cancer have an increased risk for disease onset. In fact the reverse is true: the existence of breast cancer in a family man is an aggravating factor for women who belong to it (Martin & Weber, 2000).

There is much evidence showing the existence of a direct relationship between estrogen and breast cancer development. The risk is greater after combined receipt of estrogen and progesterone. Hormonal therapy increases breast density and decreases the specificity and the sensitivity of imaging methods of detection (Likaki, 2009).

Men with a history of testicular disease or breast cancer, or even those who have a family history of breast cancer in women have a higher risk of developing the disease (Rousaki, 2006). With an increased risk of contracting from the disease are also linked syndrome Klinefelter - a disorder of sex associated with hypogonadism -, prolactins' disturbances, injuries to the testicles or some their ailments (Hultborn et al., 1997).

Radiant exposure- in cases of patients undergoing radiotherapy strong - is believed that affect the occurrence of disease (Rousaki, 2006). Ionizing radiation increases the risk of breast cancer, but the increase is small. And the carcinogenic action seems to be stronger during adolescence (Hankinson & Hunter, 2002).

While it seems that some groups of professionals - electricians, workers in telecommunications networks, those who generally exposed to electromagnetic fields - are more "vulnerable" in breast cancer (Hansen, 2000). Regarding the socio-economic level of patients, breast cancer is more common in people with higher economic and educational level. This primarily relates to the quality of life e.g. diet, use of exogenous hormones and alcohol consumption (Thompson, 2004). Specifically alcohol consumption increases the risk of disease and the consumption of fruits, vegetables and olive oil, as well as physical exercise reduces it (Richie & Swanson, 2003).

Male breast cancer prevention

Just as with women, and the male patient undergoes in mammography - in addition to clinical examination and the signs disease gives to the doctor. The experts' third "weapon" is the puncture with a fine needle and run cytology tests to sample of the puncture (Agrawal et al., 2007). If breast cancer is diagnosed, then the preoperative evaluation is completed with tomography supplemented with upper and lower abdomen, CT chest and mediastinal and bone scintigraphy (Doyle et al, 20110). Those who have a family history of breast cancer - women or men who developed the disease in their family – they must be examined by the 50th year of age. If the family members have experienced younger age cancer, experts recommend consideration of even earlier age (Giordano et al, 2004).

The histological types of breast cancer developed by men are similar to those of women and very often sensitive to the hormones estrogen or progesterone, which affect their growth. Due the fact that receptors for the hormones in male breast cancers are more, to a great percentage of cases, hormonal therapies for males can be useful. As a general rule, for men with breast cancer, recommended the same treatments as in women.

Men mostly with a mutation of the BRCA gene should be trained to make a self – examination of their breasts every month. Additionally, they must visit their therapist twice a year for a clinical breast examination. A mammogram can be requested as a reference and based on this it will be evaluated if it is necessary to repeat once a year to prevent breast cancer. It is very important also, men with BRCA mutation undergo screening for prostate cancer (Likaki, 2009).

Most important is the man has to come directly in contact with an expert in case to suspects a problem - nodule in the breast, chest pain, sore or abnormality of the nipple, secretion or bleeding from the nipple.And we must remember that even if diagnosed with breast cancer is not doomed. It must talk about the problem to the expert and not to be dismissive with the diagnosis. Rejection is what leads to a dead end, while the progress of science opens many ways to patients.

Epilogue

In summary we see that breast cancer in men, although rarely, has much in common with the same cancer in women. Breast cancer however is a one-way . The key to successfully fighting against breast cancer is the early detection. Although early detection is not a cure, it increases the chances for longevity of the patient. For this reason men should get the knowledge which is the most important weapon for life.

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