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Current management of male breast cancer

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Abstract

Male breast cancer represent 1% of all male cancers. The authors, by a review of literature, analyze risk factors and genic mutations involved in the development of such cancer. They discuss instrumental procedures of diagnosis and screening, hystologic features and surgical approach of male breast cancer.
Furthermore, they suggest adjuvant therapies stressing the importance of an early diagnosis and of the absence of nodal involvement to improve the outcome of male breast cancer.
Key words: Male breast cancer, $BCRA_2$, CMF, CAF.

Riassunto

Il carcinoma della mammella maschile rappresenta l'1% di tutti i tumori nel maschio.
Gli Autori, attraverso una revisione della letteratura, ana - lizzano i fattori di rischio e le mutazioni geniche coinvol - te nello sviluppo di tale neoplasia. Essi valutano le proce - dure strumentali di diagnosi e screening, gli aspetti istolo - gici e l'approccio chirurgico al cancro della mammella maschile.
Prendono, inoltre, in considerazione le terapie adiuvanti sot - tolineando l'importanza di una diagnosi precoce e dell'assen - za di coinvolgimento linfonodale ai fini prognostici.
Parole chiave: Carcinoma della mammella, $BCRA_2$, CMF, CAF.

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Male breast cancer represents 1% of all male cancers (1, 2, 3, 4). Because of its rarity, the data about it are very few. Male breast cancer, differently from women, occurs elderly in men: median age at the time of the diagnosis is 60 years, but cases under 5 and over 90 years have been described. In 25-30% of patients a family history of breast cancer is documented (male and female relatives from first to fourth degree). In literature several risk factors have been reported: hyperestrogenism, Klinefelter's syndrome, gynecomastia (3), trauma, radiation injury, overweight (5), single marital status, previous benign breast disease, electromagnetic energy exposure. Furthermore, an increased risk in Afro- american men has been documented. All these factors, however, have not been confirmed yet. Most recent studies report genetic mutations causing the development of male breast cancer: genic changes in 11, 13, and 8 chromosomes of male breast cancers have been identified (6). Other investigators identified the mutation of $BCRA_2$ (7) and p53 (8) genes in patients with a family history of breast cancer. Indeed, these data suggest further investigations. At the time of the diagnosis, most patients present one or more of the following symptoms: mammary nodule or mass, serous or bloody nipple discharge, nipple retraction or inversion, skin ulceration or erythema, gynecomastia, breast tenderness, axillary nodes. Sometimes the first symptoms may be due to a distant metastasis (lung, bone). Lastly, some patients show a clinical inflammatory carcinoma.
A small rate (1,4%) of synchronous or metachronous bilateral breast cancers have been described (2).
The most common site of the primary lesion is centrally located: under-or back-areolar-sited and between the upper internal and the upper external breast quadrants.
Diagnosis is based on physical examination (history, ispection, and palpation of the breast, nipple squeezing). The instrumental diagnosis is performed by the use of the routinary women's breast cancer procedures of screening: breast ultrasonography, cytologic examen of fine needle aspiration or nipple secretions, mammo- and duttogalattography, hystopathological examination on excissional biopsy. The suspicious of a distant metastasis or the need of a pre-operative staging of the disease requer further radiodiagnostic investigations: chest, head, abdominal and pelvic CT, hepatic US, total body bone scintiscan.
The most common hystologic type of breast cancer in

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men is the ductal carcinoma, with its infiltrating or in situ varieties. The tubular, medullary, papillary, small cell, mucinous carcinomas and the Paget's disease of the nipple are unusual (9). Lobular types, at last, are very rarely seen.
The standard surgical approach to male breast cancer is radical mastectomy plus axillary node dissection; a most radical surgery (extirpation of major pectoral muscle; extirpation of nodes along the internal mammary vein) is addressed to the most advanced stages of the cancer.
When there is a carcinoma in situ, a simple mastectomy should be performed.
Adjuvant radiotherapy is reserved for patients with nodal involvement. Post-operative radiotherapy seems to reduce the local recurrence but does not affect the overall long-term survival rates.
Adjuvant hormonal therapy, as for women breast cancer, seems to be useful in those tumours with proven positive oestro-progesteron receptors. Tamoxifen is the drug of choice. It has been effective in patients who previously underwent or chidectomy, adrenalectomy, and hypophysectomy with no benefits.
The use of adjuvant cytotoxic chemotherapy is controversial. Node-positive patients treated by CMF (cyclophosphamide, methothrexate, 5-fluorouracil) and CAF (cyclophosphamide, doxorubicin, 5-fluorouracil) resulted in an increased long-term survival rate. For patients with advanced disease, chemotherapy has not shown satisfactory results.
Important prognostic factors are lymphatic invasion, involvement of axillary lymph nodes and the lenght of time that occurs between the detection of cancer and its treatment (10). In fact, patients with a late diagnosis and a documented nodal involvement (nodes of second and third level) show a lower five-year survival rate than those who received and early diagnosis (stages I and II) and have not nodal invasion.

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