Male Breast cancer: report of 2 cases and review of the literature



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A. Privitera, E. Ellul, R. Giordmaina, M. Caruana, M. Klaumann, G. Felice

Department of General Surgery, St. Luke's Hospital, Gwardamangia, Malta

Introduction

Male breast cancer is rare and accounts for less than 1% of all diagnosed breast cancers. Approximately 1500 new cases are diagnosed in the United States each year, and about 25% die of the disease (13).

Optimal management of male breast cancer is not clearly established and treatment guidelines are scarce. The medical literature consists mainly of case-control and retrospective studies, and there are no available randomised prospective data. The Authors report two cases of male breast cancer and review the literature.

Case 1

A 73-year-old man presented with a 6-month history of a painless right breast lump. Past medical history showed hypertension and mild chronic heart failure. No family history of breast cancer was recorded.

On clinical examination a 2.5 cm hard, irregular subareolar lump fixed to the skin and retracting the nipple was found. Mobile ipsilateral axillary nodes were noted (Fig. 1). Fine needle aspiration (FNA) cytology showed the presence of carcinoma cells (C5). Preoperative chest X-ray and ultrasound scan of the liver were normal. The tumour was staged as IIIB (T4 N1 M0) according to the American Joint Committee on Cancer

Riassunto

CANCRO AL SENO MASCHILE: DESCRIZIONE DI DUE CASI E REVISIONE DELLA LETTERATURA

Background e scopo: Il cancro al seno maschile è raro ed ha un'incidenza dell'1% sui tumori al seno. Gli Autori descrivono due casi di cancro al seno maschile al III Stadio ed analizzano la letteratura.

Viene eseguita la mastectomia di Madden con svuotamento ascellare. I pazienti vengono sottoposti a chemioterapia adiuvante e inizia la terapia con il tamoxifene. Un anno dopo i pazienti sono vivi e non presentano la patologia. Una mastectomia radicale modificata è preferibile come approccio chirurgico quando la malattia è localizzata. Si raccomanda fin dall'inizio la terapia ormonale con il tamoxifene. La chemioterapia adiuvante ha un ruolo nel cancro del linfonodo e nella patologia avanzata localizzata. Gli uomini dovrebbero essere maggiormente informati sulla malattia e trial clinici multicentrici sono da incoraggiare per assicurare un adeguato trattamento sulla base di dati prospettici.

Parole chiave: Cancro del seno, uomo, chemioterapia adiuvante, tamoxifene.

Abstract

Background and Aim: Male breast cancer is rare and accounts for 1% of all breast cancers. The authors report two cases of male breast cancer at Stage III and review the literature. A Madden mastectomy with axillary clearance was performed. Patients were given adjuvant chemotherapy and started on tamoxifen. At one year follow-up the patients are alive and free from disease. Modified radical mastectomy is the preferred surgical approach for localized disease. Adjuvant hormonal therapy with tamoxifen is recommended as first-line treatment. Adjuvant chemotherapy has a role in node-positive cancer and locally advanced disease. Men should be made more aware of the disease and multicentric clinical trials encouraged to ensure an appropriate treatment on the basis of prospectively collected data. Key words: Breast cancer, male, adjuvant chemotherapy, tamoxifen.



Fig. 1: Subareolar breast cancer with nipple retraction.



Fig. 2: Subareolar breast cancer invading the nipple.

(AJCC) classification (15). The patient underwent a Madden mastectomy with axillary clearance. Histology was reported as invasive ductal carcinoma with five out of nine lymph nodes being replaced by tumour. The margins of resection were free. Oestrogen and progesterone receptor were present. The patient received adjuvant chemotherapy (CMF) and was started on tamoxifen. At one year follow-up the patient is alive and free from disease.

Case 2

A 67-year-old man presented with a 2-month history of a mildly tender right breast lump with blood-stained nipple discharge. Past medical history was unremarkable. No family history of breast cancer was reported. Clinical examination showed a 3 cm hard, irregular, central mass causing destruction of the right nipple (Fig. 2). Sero-sanguineous discharge was present. Fixed ipsilateral axillary nodes were noted. FNA cytology showed the presence of carcinoma cells (C5). Trucut biopsies were reported as moderately differentiated carcinoma. Preoperative chest X-ray, bone scan and ultrasound scan were normal. The tumour was staged as IIIB (T4 N2 M0). The patient underwent a mastectomy according to Madden with axillary clearance. Histology was reported as invasive Grade III ductal carcinoma with thirteen out of sixteen lymph nodes involved. Focal angiolymphatic invasion was identified. Margins of resection were free of tumour. Oestrogen and progesterone receptors were present. Adjuvant chemotherapy (CMF) was given and the patient started on tamoxifen. At one year follow-up the patient is alive and free from disease.

Discussion

The incidence of breast cancer in men has remained stable over the past four decades (8). The median age at diagnosis is 68 years compared with 63 years in women (2); however, the disease has been reported in males ranging from 5 to 93 years (7). The bimodal age distribution seen in women is absent and the incidence increases exponentially with age (1). Risk factors mainly involve abnormalities in oestrogen and androgen balance. An elevated risk has been seen in patients with undescended testes, Klinefelter's syndrome, gynaecomastia, orchidectomy, orchitis, testicular injury, infertility, liver disease and obesity (12, 24). A family history of breast cancer is reported in 5% to 30% of cases (4, 5). Men with a positive history have an odds ratio for developing breast cancer of 3.98 (19). Mutations in the BRCA2 gene located on chromosome 13q12-13, have been shown in up to 40% of cases and seem to predispose to the disease (25). Approximately 85% of patients present with a painless subareolar mass. Other common signs and symptoms include local pain, nipple retraction, nipple ulceration and discharge (9, 18, 21). The rate of nipple involvement has been reported in 40% to 50% of cases, probably in relation to the sparsity of breast tissue and the central location of most tumors (14, 29). Men are more likely than women to have a delay between the onset of symptoms and diagnosis. This is mostly related to the limited public awareness of breast cancer in men. This delay may contribute to the later stage of presentation.

About 90% of all breast tumours in men are invasive ductal carcinomas; the remaining 10% are non invasive and most of them are ductal carcinoma in situ (21). Lobular carcinoma is much less common in men than in women and represents only 1% of all cases (9, 22). Inflammatory carcinoma and Paget's disease are seen with similar frequency in men and women (6, 11).

As regards surgical treatment, modified radical mastectomy is considered the treatment of choice. Studies comparing radical with modified radical mastectomy in men have found equivalent local recurrence and survival rates (10, 16). Limited data are available for determining which patients need radiation therapy after mastectomy. Several studies have found that radiation reduces the risk of local recurrence but does not affect overall survival (3). The role of adjuvant chemotherapy is less definite, but the limited data do suggest a benefit. The National Cancer Institute studied 24 male patients who were given adjuvant chemotherapy for node-positive stage II breast cancer. The 5-year survival rate among these patients was 80%, which was significantly better than the survival rate among historical controls (20). Other authors have also reported improved outcomes in patients treated with adjuvant chemotherapy (6, 30). Systemic chemotherapy should therefore be administered to patients with stage II or more advanced disease. The most frequently used regimens are CMF (cyclophosphamide-methotrexate-5fluouracil) and FAC (5-fluorouracil-Adriamycin-cyclophosphamide) (30). Carcinomas of the male breast have a higher rate of hormone receptor positivity than in the female counterpart when matched for tumour stage, grade, and patient age (27, 28). No randomised clinical trials have evaluated the use of adjuvant tamoxifen. Several large studies have retrospectively compared men who were treated with tamoxifen in an adjuvant setting with men who received no hormonal therapy and have found improved survival in patients in the first group (9, 17, 18). Ribeiro et al., compared 39 patients with stage II and stage III disease who received tamoxifen with historical controls and found a 5-year survival of 61% versus 44% (17). These studies may underestimate the benefit of tamoxifen because most men were treated for less than 2 years. The optimal length of therapy in women is 5 years; therefore, a greater benefit in men may be seen with longer duration of treatment.

Axillary lymph node status, tumour size, histologic grade and hormone receptor status are significant prognostic factors in men with breast cancer. Lymph node involvement is the most important negative prognostic factor (3, 6). When all factors are taken into account, the overall 5-year survival is 85% for patients with nodenegative status and 57% for patients with node-positive status, with an average 5-year disease-free interval of 55% (23). Male and female breast cancers have been shown to have similar outcomes when prognostic factors, disease stage and age are matched (26).

Conclusions

Carcinoma of the male breast has many similarities to

breast cancer in women, but the diseases have different clinical and pathologic features. For localized disease, modified radical mastectomy is the preferred surgical approach. There is no evidence that adjuvant radiation therapy after mastectomy improves survival. Although the evidence is limited, most studies point to a benefit from adjuvant chemotherapy. Because men have high rates of response to additive hormonal therapy, this approach is recommended as first-line treatment in hormone receptor-positive disease. Men are to be given more information about breast cancer and multicentric clinical trials should be carried out to collect prospective data for a better planning of treatment.

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Author for correspondence:

Mr. A. PRIVITERA, 1 Claire, Triq ir-Ratal, Swieqi, STJ 13, MALTA Tel.: +356-21371094 Fax: +356-21371299 E-mail: privitera@hotmail.com