BREAST CANCER: TREATMENT OF ELDERLY PATIENTS AND UNCOMMON CONDITIONS

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Treatment of elderly patients

Breast cancer in elderly woman.

About 40% of all breast cancers occur in women aged over 70. The cancers that develop in older women are as aggressive as those seen in younger patients. Treatment with tamoxifen alone controls local disease in less than 30% of elderly patients at five years after diagnosis, which is not satisfactory since the average life expectancy of a 70 year old woman is 14 years. Even when this treatment is restricted to patients with tumours that are oestrogen receptor positive, only half gain long term control of local disease.

Management of elderly patients with breast cancer

<i>Tumour stage and size</i> T_1 or $T_2 \leq 4$ cm size, N_{0-1} , M_0	<i>Treatment options</i> Wide local excision, node sampling, and radiotherapy or Mastectomy, node clearance, and adjuvant tamoxifen
$T_2 > 4$ cm or T_3 , N_{0-1} , M_0 : Oestrogen receptor: Positive	Mastectomy, node clearance, and adjuvant tamoxifen or Tamoxifen and then, if tumour regresses, wide local excision, node sampling, and radiotherapy
Unknown, negative, or no response to tamoxifen	Mastectomy, node clearance, and adjuvant tamoxifen
T_4 , N_2 , M_0 : Oestrogen receptor: Positive	Tamoxifen
Unknown, negative, or no response to tamoxifen	Radical radiotherapy or Mastectomy and radiotherapy Possibly chemotherapy
Any T , any N , M_1 : Oestrogen receptor: Positive or unknown	Tamoxifen and symptomatic treatment
Negative	Symptomatic treatment and possibly low dose epirubicin or mitozantrone
Very elderly or infirm patients	Tamoxifen

Elderly women with breast cancer should be treated in a similar way to younger patients. Few patients are truly unfit for surgery because wide local excision or even mastectomy can, if necessary, be performed under local anaesthesia with sedation. There is no evidence to suggest that elderly patients cannot tolerate radiotherapy as well as younger patients, and when radiotherapy is given it should be given in a radical dose.

Operable tumours ≤ 4 cm in size

The alternative treatments are breast conservation surgery (wide local excision, sampling or clearance of axillary nodes, and radiotherapy) or mastectomy and node clearance. Many older women are unhappy about losing a breast and choose breast conservation. Simple mastectomy alone is associated with an unacceptable rate of axillary relapse. Mastectomy and axillary node clearance has a similar postoperative mortality ($<1\%$) to simple mastectomy but is associated with a significantly lower rate of axillary recurrence. Similar mortality is seen after wide local excision, but morbidity is much less after this procedure. All elderly patients, regardless of node status, should be offered adjuvant treatment with tamoxifen.

Fine needle aspirate from breast cancer stained for oestrogen receptor: nuclei stained brown indicate cells that are receptor positive.

Operable tumours >4 cm in size

Treatment can be either mastectomy and axillary node clearance or, if the tumour is shown to be oestrogen receptor positive by biopsy or fine needle aspiration cytology, an initial three month course of tamoxifen. During this time the tumour should be monitored: two thirds of women with oestrogen receptor positive tumours will show a regression of their disease to a lower stage after tamoxifen treatment and will become eligible for breast conserving treatment. Patients who have not responded after three months should undergo mastectomy and clearance of axillary nodes. All patients should be given adjuvant tamoxifen.

Serial ultrasound scans of breast tumour during three months after tamoxifen treatment: tumour significantly reduced in volume.

Locally advanced breast cancer

In up to a half of patients with oestrogen receptor positive tumours tamoxifen treatment will cause regression of their disease to an extent that some form of local surgery is appropriate. Patients with oestrogen receptor positive tumours that show no response by three months and patients with oestrogen receptor negative tumours should receive adequate locoregional treatment. This is usually radical radiotherapy to the breast, chest wall, and axillary nodes with full dose to skin. Selected patients may alternatively be offered mastectomy or wide local excision with radiotherapy or, occasionally, low dose chemotherapy.

Metastatic disease

Patients with oestrogen receptor positive tumours should receive tamoxifen and appropriate symptomatic treatments. Patients with oestrogen receptor negative tumours should be treated symptomatically. Palliative chemotherapy may provide a worthwhile response without appreciable toxicity in suitable patients.

Very elderly or infirm patients

A small group of very elderly or infirm patients are unfit for treatments other than tamoxifen. These are the only patients for whom tamoxifen should be considered as sole treatment.

Paget's disease of the nipple

Paget's disease of the nipple

- Associated with 1-2% of all breast cancers
- Occurs in similar age range as other breast cancers
- Often associated with delay in diagnosis
- Diagnosis established by cytology or wedge biopsy of nipple

Treatment

- Mass lesion—mastectomy, axillary node clearance, and radiotherapy (or rarely wide local excision, node sampling or clearance, and radiotherapy)
- No mass lesion—wide local excision, node sampling, and radiotherapy or mastectomy and node sampling

Paget's disease is an eczematoid change of the nipple associated with an underlying breast malignancy, and about 1-2% of patients with breast cancer have it. In half of these patients it is associated with an underlying mass lesion, and 90% of such patients will have an invasive carcinoma. Of the patients without a mass lesion, 30% will later be found to have an invasive carcinoma and the remainder have in situ disease alone.

Paget's disease may be localised or occupy a large area; the lesion should be differentiated from eczema affecting the nipple and from direct spread into the nipple by an adjacent invasive carcinoma. If Paget's disease is suspected on clinical examination, mammography should be performed to determine if there is an underlying lesion. Imprint cytology (pressing the eczematoid lesion onto a slide) or scrape cytology (scraping some of the lesion onto a slide) can sometimes establish the diagnosis. The most reliable method of obtaining a diagnosis is by incisional biopsy—removing a portion of the abnormal skin for pathological examination.

Paget's disease of the nipple: localised (left) and extensive (right).

Eczema of the nipple.

Nipple directly involved by breast cancer.

Management

If a mass lesion is present the appropriate treatment is mastectomy and axillary node clearance (60% of patients with a mass lesion have involved axillary nodes). When Paget's disease is associated with an underlying central lesion a wide excision of the nipple, areola, and underlying mass followed by radiotherapy can give a satisfactory cosmetic result and satisfactory control of local disease. Adjuvant treatment depends on nodal and menopausal status.

Cosmetic result of treating Paget's disease and underlying mass lesion by wide excision of mass and nipple and areolar complex.

For patients without a mass lesion wide local excision alone is associated with a high rate of local recurrence, but adjuvant radiotherapy may increase rates of local control to acceptable levels. Mastectomy and axillary node sampling (less than 10% of patients without a clinical mass have nodal metastases) is the standard treatment and provides long term disease control in over 95% of patients.

Breast cancer and pregnancy

Breast cancer during pregnancy

- Affects 1-3 of every 10 000 pregnancies
- 25% of all breast cancers in women aged <35 associated with pregnancy
- 15% of all breast cancers in women aged <40 associated with pregnancy
- 65% of pregnant women with breast cancer have involved axillary nodes

Treatment

- First and second trimester—mastectomy and axillary node clearance
- Third trimester—ideally delay treatment and deliver baby at 30-32 weeks; consider primary systemic treatment if tumour large or locally advanced; consider mastectomy, node clearance, and radiotherapy if tumour growing rapidly

About 1-2% of all breast cancers occur during pregnancy or during lactation, and a quarter of women who develop breast cancer under the age of 35 do so either during or within one year of pregnancy. There is no evidence that breast cancer occurring during pregnancy is more aggressive than other breast cancer, but diagnosis is often delayed because of the difficulty of identifying a discrete mass in an enlarging breast. This means that women tend to present with cancers at a later stage, about 65% having involved axillary nodes.

Management

Treatment during the first two trimesters is a modified radical mastectomy. Radiotherapy should not be delivered during pregnancy. Chemotherapy can be given but is associated with a small risk of fetal damage, particularly in the early stages of pregnancy. Breast cancer in the third trimester can be managed either by immediate surgery or by monitoring the tumour, delivering the baby early at 30-32 weeks, and then instituting treatment after delivery. This allows patients with large or locally advanced breast cancers to have primary systemic treatment, which can sometimes cause regression of the disease to a lower stage at which less extensive surgery can be performed. When monitoring shows the tumour to be increasing in size, treatment (surgery or chemotherapy, depending on which is appropriate) should be instituted before delivery.

Pregnancy after treatment of breast cancer

There is only limited information on the effect of pregnancy on the outcome of a patient with breast cancer. It is generally recommended that there should be a delay of two to three years between treatment for breast cancer and pregnancy because most relapses (80%) occur in the first two years. Women given breast conserving treatment including radiotherapy have on occasions breast fed from the treated breast with no deleterious effects to mother or baby.

Breast cancer of right breast during pregnancy.

Male breast cancer

Breast cancer of left breast in elderly man.

Less than 0.5% of all breast cancers occur in men, and breast cancer comprises 0.7% of all male cancers. The peak incidence is five to 10 years later than it is in women. Klinefelter's syndrome is the only known risk factor for male breast cancer.

Presentation is usually with a lump or retraction of the skin or nipple. Male breast cancers are usually eccentric masses whereas gynaecomastia is almost always central. Infiltration of the skin or nipple occurs much earlier in male breast cancer because of the smaller breast volume, and, compared with female breast cancer, the disease is more likely to be advanced at diagnosis. Mammography is valuable in determining whether breast enlargement is due to gynaecomastia or breast cancer. When there is doubt fine needle aspiration should be performed to establish a definitive diagnosis. The histology and prognosis for each tumour stage are similar to those for female breast cancer.

Male breast cancer

- 0.7% of all male cancers
- 0.5% of all breast cancers
- Peak incidence 5-10 years later than in women
- Klinefelter's syndrome increases risk
- Diagnosis by mammography and fine needle aspiration cytology

Treatment

- Mastectomy, axillary node clearance, and radiotherapy
- Adjuvant tamoxifen
- Consider adjuvant chemotherapy in fit patients if tumour oestrogen receptor negative and axillary nodes involved

Management

Treatment of localised breast cancer is usually by modified radical mastectomy (mastectomy and clearance of axillary nodes) and radiotherapy to the chest wall; radiotherapy is given because it is more difficult to get wide excision margins in males and the disease is often locally advanced. Small breast cancers can be treated by wide local excision with sampling or clearance of axillary nodes and postoperative radiotherapy. Adjuvant tamoxifen is effective at reducing recurrence, but adjuvant chemotherapy should be considered for fit patients with tumours that have nodal involvement and that are oestrogen receptor negative. Local recurrence or metastatic disease can be treated by castration. Systemic chemotherapy should be considered for fit patients with life threatening disease or with symptomatic, recurrent, or metastatic disease that does not respond to castration. The regimens are identical to those used in female breast cancer.

Other rare neoplasms

Sarcoma that developed 20 years after radiotherapy to chest wall for breast cancer.

Mammogram showing suspicious abnormality that was subsequently found to be fibromatosis.

Lymphomas rarely occur in the breast: staging investigations are necessary for patients with lymphoma because they usually also have disease outside the regional nodes. Localised lymphoma should be treated by wide local excision, axillary node sampling, and radiotherapy.

Sarcomas may develop in breast tissue or may affect overlying skin, and, rarely, they may follow radiotherapy to the chest wall. Diagnosis is often suggested by the results of fine needle aspiration cytology. Sarcomas are best treated by as wide an excision as possible; since many of these tumours are large at diagnosis, mastectomy is generally necessary. Axillary node sampling is adequate because axillary nodes are rarely involved. Radiotherapy should be given to the chest wall after excisional surgery, but there is no evidence that adjuvant chemotherapy is of benefit. Survival seems to be related to the size and grade of the tumour.

Proliferative lesions characterised by spindle cells may range from benign overgrowths to sarcomas. Lesions in the middle of this range include fibromatosis and nodular fasciitis, which masquerade clinically and mammographically as breast cancers. They are rare but can recur locally after excision. They should be treated by wide local excision and careful surveillance.

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The ABC of Breast Diseases has been edited by J M Dixon.