

Mastalgia; is this commonly associated with operable breast cancer?

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Summary

A detailed analysis by questionnaire of breast pain in 460 newly referred patients at a specialized breast clinic revealed that only 1.5% of patients with pain had an early breast cancer. Of all 44 cancers 8 were painful but only 4 considered early. All these had nipple retraction. We conclude that although breast pain is rarely associated with cancer, localized pain must be fully investigated to exclude this diagnosis.

Introduction

Pain is not generally regarded as a common presenting symptom of early breast cancer; when present it traditionally implies an advanced lesion with invasion of surrounding structures (1). As one of the most common breast symptoms overall, pain tends to be immediately associated with physiological or benign breast disease.

In recent years the development of specialist breast clinics with screening facilities and efficient data collection are revealing more and more early stage breast cancer. An important group of patients have also been identified who have small painful carcinomas, many of which are subclinical (2).

We were not aware of such a group in the Southampton Breast Clinic and were concerned that some patients were being undiagnosed or diagnosed late. As breast pain is common in premenopausal women and its perception possibly altered by the stress of specialist referral and investigation, any retrospective analysis may be difficult to interpret. We therefore investigated this matter further by performing a prospective study by questionnaire of 460 new patients attending our specialist clinic.

Patients and methods

A total of 460 new patients attending the specialist breast clinic were invited to fill in a carefully designed questionnaire on arrival at the outpatient waiting room before any contact with hospital medical staff. The only exclusions were women who had attended this clinic within the previous 12 months.

The questions were structured to analyse all symptoms and their order of appearance, particularly the first symptom leading to medical attendance and whether pain had

only come on since seeing their general practitioner. Further questions relating to previous breast disease, menstrual, obstetric and family history were also included. The clinical notes of each patient completing the questionnaire were reviewed after diagnosis and treatment. The patients' notes were reviewed one year later to exclude a possible earlier misdiagnosis.

Results

Of the 460 new patients who completed the questionnaire 16 failed to answer the questions satisfactorily leaving 444 for analysis. The final diagnosis in each case is summarized in Table I. The patients with tumours and cysts were proven by excision or aspiration. As expected, fibroadenosis was the most common condition for which patients were referred, with benign tumours or cysts in second place. One in ten patients referred was found to have a carcinoma. Although duct ectasia was commonly seen on mammography this was considered the primary abnormality in only three cases. In eight cases no significant abnormality was found.

In 209 cases pain was the first symptom and in 8 cases a diagnosis of carcinoma was made (3%). All but one noticed a lump following the initial discomfort and three cases had associated nipple retraction (Table II).

A very similar number, 213, presented with a lump of which 36 were proven to have a carcinoma (15%). Only 2 of these complained of related discomfort or pain at any time and a further 2 noticed nipple retraction.

The TNM classification of all 44 malignant tumours is shown in Table III. Five of the painful tumours were locally advanced and the remaining three associated with nipple retraction. When the histological type of tumour (Table IV) was related to the primary symptom there appeared to

TABLE I Final diagnosis in 444 patients

Fibroadenosis	278
Benign tumours/cysts	109
Carcinomas	44
Paget's Disease	1
Tietze's Disease	1
Duct ectasia	3
No abnormality	8

TABLE II Symptoms related to final diagnosis

	Fibroadenosis	Benign tumours/ cysts	Carcinomas	Others
Pain	168	24	8	9
Lump	103	71	36	3
Others	7	14	1 Paget's	

TABLE III TNM staging of breast carcinoma related to symptoms

	Pain	Lump	Others
T ₁ N ₀ M ₀	—	9	1 (Paget's)
T ₁ N ₁ M ₀	—		
T ₂ N ₀ M ₀	2 Both nipple retraction	13	
T ₂ N ₁ M ₀	1 Nipple retraction	8	
T ₃ N ₀₋₁ M ₀₋₁	5	5	

TABLE IV Tumour pathology related to symptoms

Histopathology	Symptom		
	Pain	Lump	Other
Invasive lobular	2	6	0
Invasive ductal	6	28	0
In-situ ductal	0	2	1 (Paget's)

be no clear relationship, but the numbers of pathologically distinct tumours was small.

Mammography was performed routinely on all symptomatic patients over the age of 35 and no unexpected tumours were encountered in 354 patients. After one year of follow-up no new tumours which may have been missed by initial investigation were reported in the cohort studied.

Discussion

Pain is reported in many studies to be the commonest breast symptom requiring referral (3). However, in this series it was found to be a close second to 'lumps' (lumpiness). Such data may simply reflect specialist referral patterns but recent figures from the Nottingham self-referral programme (4) also put 'lumps' as the predominant presenting symptom.

Until recently pain was never regarded as a significant symptom of early breast cancer because of its reported infrequency when compared to painful benign conditions (5,6). Preece *et al.* (2) have recently presented data analysed

from questionnaires which showed that 36 of 240 (15%) operable cancers collected over 4 years presented with pain as one of the symptoms; six cases were lobular tumours, a higher than average proportion. In 17 cases pain was the only symptom with 10 of the tumours being less than 2 cm in size. The character of the pain did not follow any particular pattern, but they conclude, not unreasonably, that any patient presenting with localized breast pain should be investigated thoroughly to exclude cancer.

In this study we have looked at the subject from a different viewpoint and considered the numbers of painful early cancers out of the total referred with breast pain. Only 3 early breast cancers, all with nipple retraction, presented with pain, out of a total of 209 patients referred with painful breasts (1.5%). A further early carcinoma presented as a lump but was painful before treatment.

Of the 44 carcinomas in total, 8 were painful (18%) but only 4 were considered early (9%). This compares with 5 (17%) in other published series and 14% in the Cardiff study. The majority of the painful tumours were locally advanced as one might expect.

With rare exceptions all patients over 35 presenting to the clinic undergo mammography. Of the 354 patients who had mammograms no subclinical cancers were identified and after a one year follow-up none has returned with a breast cancer. It is therefore not possible from this cohort to comment on the finding of others that 30% of patients with subclinical cancers present with pain. However, one other group in the UK in a breast screening programme (Thomas BA. Personal Communication: Guildford breast screening project) have found that 10% of 232 small carcinomas (<2 cm) detected in the screened group had complained of pain in the area of the tumour. It would therefore seem that localised pain in the absence of physical signs is an important symptom which merits full investigation, but of all mastalgia patterns only a very small number will have a carcinoma. It is still our experience that painful cancers are predominantly locally advanced.

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