Symptoms and signs of operable breast cancer

REPORT FROM THE YORKSHIRE BREAST CANCER GROUP

SUMMARY. Early detection of breast cancer depends upon a high index of clinical suspicion as screening programmes are not yet generally available in the United Kingdom. The symptoms and signs of operable breast cancer in 1,205 women presenting prospectively and unselected to the surgical clinics of members of the Yorkshire Breast Cancer Group from 1976 to 1981 are reviewed.

Seventy-three per cent of the women were postmenopausal. Seventy-six per cent of the patients presented with a discrete lump. Pain as a presenting symptom was rare, but when questioned 33 per cent of the women admitted that the lump was painful. Forty-two per cent of patients had skin tethering or fixation, but only 22 per cent had nipple retraction or displacement. Forty-two per cent of women had lesions which appeared to have well-defined edges. Only 32 per cent of lesions were clinically T0 or T1, the majority (56 per cent) being T2, and 12 per cent were T3.

Standard descriptions of symptoms and signs in breast cancer have so far failed to define in what percentage of patients, diagnostic features are present, and have also omitted to emphasize that in a considerable proportion of women classical signs may be absent. Any breast lump in a postmenopausal woman must be considered malignant until proved otherwise and it is wise to pursue an active diagnostic policy in the premenopausal patient, with early referral for a surgical opinion in both cases.

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Introduction

BREAST carcinoma is the commonest malignancy in women.[1] There is some evidence that survival rates following treatment are improving slowly if modestly[2] but as yet no indication that the incidence of the disease is decreasing. Common sense would suggest that one way to improve survival should be to detect and eradicate the disease at as early a stage in its development as possible,[3] and support for this hypothesis has come from breast cancer screening programmes in the United States.[4-6] Evidence from such studies indicates that screened women present with smaller lesions, more *'in situ* lobular carcinomas', and are less likely to have metastases in axillary lymph nodes. Improved survival rates at five, 10 and 14 years in screened compared with non-screened women have also been achieved[7] though this relates to women over 50 years of age.

Breast cancer screening programmes may be costly, depending upon the methods used, and in the United Kingdom the Department of Health and Social Security (DHSS) has set up a number of regional studies to try to evaluate the simplest and most cost-effective method of screening. Meanwhile one has to depend upon a high index of clinical suspicion in order to detect early breast cancer.

Women whose initial symptoms do not include a breast lump are slower to consult a doctor than those in whom a lump is present.[8-10] While it is important to encourage patients to seek help quickly for any breast abnormality it is equally obvious that some form of selection must be applied, otherwise surgical clinics might well be swamped by women proving to have relatively trivial breast complaints.

Having reviewed many of the standard surgical texts dealing with breast cancer,[11-19] it became apparent that there was a surprising lack of agreement as to the incidence of the various symptoms and signs.

A study of prognostic factors in women with operable breast cancer was started in the Yorkshire region by the Yorkshire Breast Cancer Group in 1976. Patients have been entering this study at the rate of approximately 200 per year. We have now analysed the presenting symptoms and signs in these women, and have tried to define those important features which should alert the general practitioner to the possibility of breast cancer.

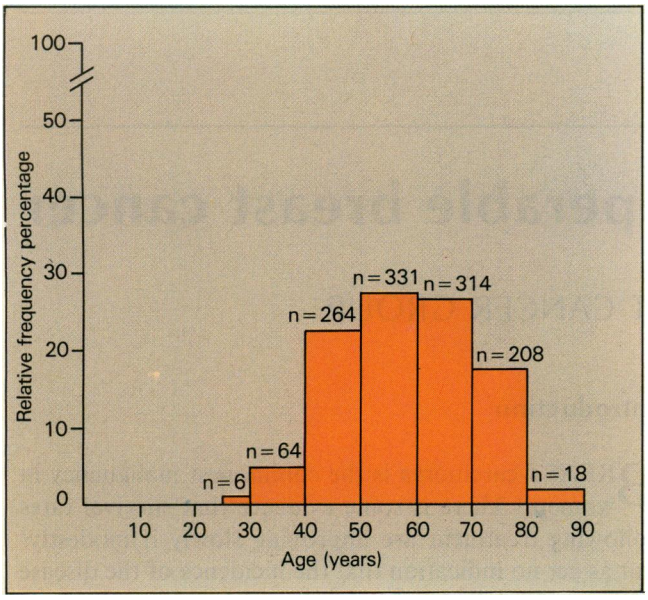


Figure 1. *Age distribution in 1,205 patients with operable breast cancer.*

Table 1. Method of presentation in 1,205 patients with operable breast cancer.

Presenting symptom	Number of patients	Percentage of patients
Discrete lump	914	76
Swelling	86	8
Pain	58	5
Nipple retraction	43	4
Nipple bleeding/discharge/ crusting	22	2
Skin puckering	15	1
Lump in axilla	15	1
		97

Et alii: 'bruising', 'heaviness', tiredness, gallstones (1), appendicitis (1) etc.

Method

All patients in this series presented prospectively, unselected and consecutively to the various surgical clinics of members of the Yorkshire Breast Cancer Group from 1976-81. All patients had 'operable' breast cancer, defined as T0, T1, T2, T3, N0, N1a, N1b, M0.

At presentation each woman had a full history taken and examination made according to a defined protocol[20] and an observer variation study was built into the early data collection[21] in order to ensure reproducibility of data between the various participating centres.

The symptoms and signs on which we concentrated were: age; menopausal status; method of presentation; pain; any visible abnormality; site in breast; and macroscopic features of clinical size, edge, skin tethering, and nipple retraction or displacement.

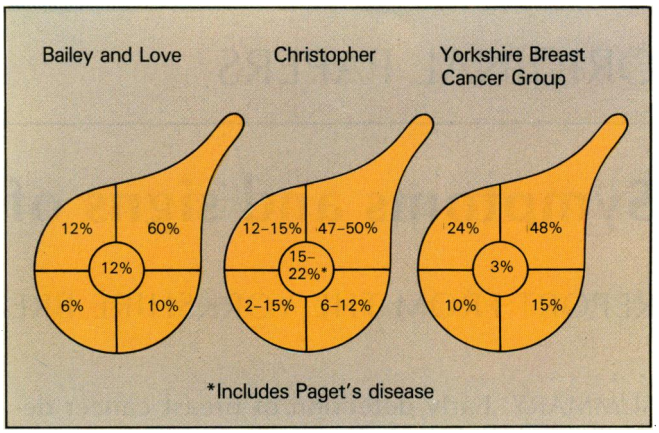


Figure 2. *Distribution of breast cancer by quadrant showing results of studies by the Yorkshire Breast Cancer Group, Bailey and Love,[12] and Christopher.[18]*

Results

Age. (Figure 1). Presentation becomes increasingly more common after 40 years and spans the decades 40–80 years. The disease was commonest in the decade 50–59 years. Three hundred and twenty-three of the women were premenopausal and 882 were postmenopausal (defined as more than a year since the last menstrual period (LMP)).

Method of presentation (Table 1). Nine hundred and fourteen (76 per cent) of the patients presented with a discrete lump and the various other methods of presentation are shown. Six hundred and twenty patients had a left breast carcinoma and 578 a right breast carcinoma, and seven had bilateral disease. Pain as a presenting symptom is uncommon; only 5 per cent of patients claimed that pain was the presenting feature. However, when patients were asked whether their lump was painful a different picture emerged, and of the total no fewer than 392 (33 per cent) admitted that this was so, either spontaneously or on palpation. This is appreciably higher than normally quoted. Only 22 patients presented with either discharge or bleeding from the nipple, and in fact only one patient presented with bleeding.

It should be noted that cases of Paget's disease have not been included in this analysis.

Features on examination. We asked contributing surgeons to indicate if any breast abnormality was visible at presentation. This included not only the presence of a visible lump but also skin tethering, and deviation or retraction of the nipple. Five hundred and eight patients (42 per cent) had some visible abnormality.

Site of lesion. We confirmed that the upper outer quadrant of the breast is the one in which most carcinomas arise though the actual incidence in the various quadrants did not agree with other authors (Figure 2).[12,18]

Size of lesion. Sizes are expressed according to the TNM system (T0 lesions being impalpable, T1 less than or equal to 2 cm in maximum diameter, T2 being 2.1 to 5.0 cm and T3 greater than 5 cm.) These represent clinical not pathological sizes. The T size distribution is shown in Figure 3, for the 1,181 cases in which the tumour was measured. There were 19 (2 per cent) T0, 347 (29 per cent) T1, 676 (56 per cent) T2 and 139 (12 per cent) T3 lesions. In 24 patients no size was recorded.

Edge of lesion. Six hundred and thirty-three (53 per cent) of the carcinomas had an ill-defined edge, but 507 (42 per cent) were described as 'well circumscribed'. No comment was made as to the edge of the lesion in 65 patients.

Skin tethering and fixation was present in 507 (42 per cent) of patients.

Nipple changes (Figure 4). Nipple retraction was present in only 227 (19 per cent) of patients, and if to this was added the figure for nipple displacement, present in 130 (11 per cent) of patients, it is still apparent that nipple changes occurred in no more than 269 (22 per cent) of women with breast carcinoma.

Nipple retraction	Nipple displacement: Yes	No	Not known	Total
Yes	88	132	7	227
No	42	925	2	969
Not known	0	3	6	9
Total	130	1060	15	1205

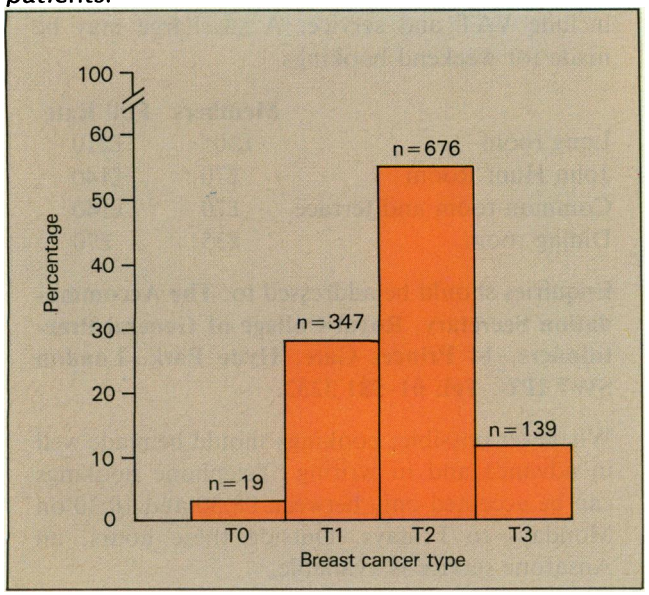
Number of women with either retraction or displacement or both = 269 (22%)

Figure 4. *Incidence of nipple changes in 1,205 patients with operable breast cancer.*

Discussion and conclusions

Breast cancer is commonest in the decade 50–60 years, and 73 per cent of the women are postmenopausal. Seventy-six per cent of women present with a discrete lump in the breast and, although pain is uncommon as a presenting symptom, on enquiry a third of the women will admit that the lump is painful, either spontaneously or on examination. It is important to realize that breast cancer may present as a painful lesion.[22] Nipple discharge or bleeding is an uncommon feature of breast carcinoma, though it should be noted that patients with Paget's disease were not included in this series. A visible abnormality will be present in somewhat less than half the women, and this is an important fact when screening programmes which include breast self examination are being considered. The lump is most commonly situated in the upper outer quadrant of the breast, and this is not surprising in view of the greater ductolobular density in this sector compared with the other quadrants. The majority of lesions are greater than 2 cm in maximum diameter, and only a third of the patients present with favourably early small tumours of 2 cm or less. These are rather depressing findings in view of the considerable publicity given to greater awareness and earlier detection of breast cancer. We were surprised to find that in nearly half the patients the edge of the lesion may feel well circumscribed, as it is usually taught that the edge of a breast tumour is ill-defined and diffuse. The important sign of skin tethering is present in less than half the patients with breast cancer, and nipple changes occur in rather less than a quarter. The low incidence of nipple retraction presumably reflects the fact that most breast tumours are in fact neither placed centrally in the breast nor indeed close to the nipple.

Figure 3. *Clinical size of breast tumour in 1,181 patients.*



If, in the absence of screening programmes which are not yet widely available, we hope to recognize a higher proportion of early tumours it should be emphasized that a considerable proportion of breast carcinomas lack many of the specific symptoms and signs which one has been taught to expect. Any lump in a postmenopausal female should be considered malignant until proved otherwise. Early cancer in the premenopausal woman may well present as an apparently innocuous lump, and the persistence of such a lesion over one, or at the most two, menstrual periods should lead to referral to a surgeon with an interest in breast disease.

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