



OBSERVATIONAL STUDY IN PAINFUL BREASTS- VALUE OF IMAGING

Gynaecology

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KEYWORDS

Breast pain is one of the most common breast symptoms, which leads women to seek a physician consultation'. It may cause a high level of concern in women for an underlying malignancy. The reported incidence of breast cancer in patients presenting with breast pain is 0% to 3.2%²⁻⁶.

Breast pain is generally of two kinds: a cyclical waxing and waning pain, which is usually diffuse, bilateral, and is usually associated with menstrual cycle, and a noncyclical pain, which is usually unilateral and localized.

Breast imaging is valuable in the investigation of symptomatic breast disease. Management of a palpable breast lesion includes triple assessment of physical examination, mammography and biopsy^{7,8}.

Mammography is the method of choice for screening women over 40 years of age who have no symptoms⁹⁻¹² and women with a family history of breast cancer^{13,14}. We performed a prospective observational study to assess the outcome of breast imaging in patients of a painful breast.

AIMS AND OBJECTIVES

Value of breast imaging in patients with breast pain in whom physical examination shows no abnormalities.

The frequency of radiological abnormalities and their clinical importance.

Whether a biopsy of the painful area is necessary.

MATERIALS AND METHODS

The present OPD based study was conducted in the Department of Obstetrics and Gynaecology, GMC Srinagar.

A total of 600 patients were enrolled comprising of 300 patients each from Cases and Controls.

INCLUSION CRITERIA

Women with a painful breast(s) without any palpable mass.
Women with breast pain with family history of breast carcinoma.

EXCLUSION CRITERIA

Patients with a palpable lesion in the painful breast
Patients with a history of breast cancer
Breast augmentation.

Cases Group (n=300)

Women with painful breasts without any palpable mass.
Women with breast pain with family history of breast carcinoma.

Control Group (n=300)

Asymptomatic women matched with cases in respect of age.
Women whose first degree relative have breast carcinoma.

IMAGING STUDIES

Mammographic evaluation was done as per Birads scoring system. imaging consists of a two view mammography (craniocaudal and mediolateral oblique views)

Ultrasonography was performed for any inconclusive mammographic findings and localised breast pain when a dense looking mammogram was negative.

Ultrasonography was performed instead of mammography where pain was restricted to one breast quadrant in patients aged under 25 years.

For this study, we provided two radiology reports for each patient. The first report detailed the imaging findings for the painful breast(s). The second report gave the imaging results for both breasts, and thus included any radiological abnormalities detected in an asymptomatic breast. For example, the first report was classified as normal and the second report as benign if imaging showed no abnormalities in the painful breast but a cyst in the asymptomatic contralateral breast.

Classification of radiological appearances

- Normal (no apparent abnormalities)
- Benign (for example, a cyst, lipoma, or mastopathy)
- Probably benign (for example, asymmetric area of fibroglandular density or a cluster of non-specific microcalcifications)
- Suspicious (for example, solid mass with irregular or not well defined borders)
- Malignant (for example, spiculated mass or microcalcifications of the ductal type)

Mammographic evaluation of both breasts was done in all patients irrespective of pain in one or both the breasts.

FOLLOW UP

All patients were monitored for two years, and three follow up procedures were used to provide the best possible information on their breast cancer status at the end of follow up.

Secondly, we received all the pathology reports for breast biopsies performed in our hospital during the follow up period and checked these.

Comparison group

To determine whether breast pain is associated with an increased risk of breast cancer, a comparison group of asymptomatic women who were referred for screening mammograms for many reasons (for example, a family history of breast cancer, reassurance, or a fear of breast cancer). All asymptomatic women underwent breast examination after mammography and were asked about any first degree relative had breast cancer. Controls were frequently matched to cases in relation to age (in 10 year age groups) and the prevalence of a first degree relative with breast cancer. identical radiological procedures and follow up methods were used for cases and controls.

RESULTS

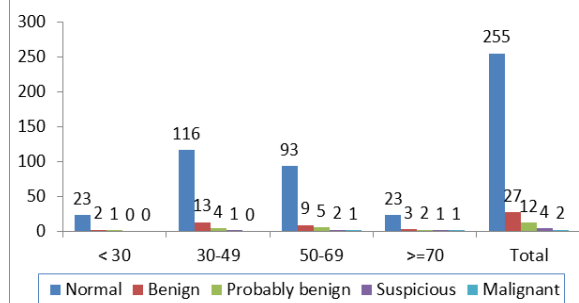
Among cases < 30 years were 20 cases (6.7%), 30-49 years were 135 cases (45.0%), 50-69 years were 117 cases (39.0%) and >70 years were 28 cases (9.3%). While among controls < 30 years were 25 cases (8.3%), 30-49 years were 135 cases (45.0%), 50-69 years were 120 cases (40.0%) and >70 years were 20 cases (6.7%) of controls.

RESULTS

Age distribution of studied patients

Age (Years)	Cases (N=300)	Controls (N=300)
< 30	20 (6.7%)	25 (8.3%)
30-49	135 (45.0%)	135 (45.0%)
50-69	117 (39.0%)	120 (40.0%)
>=70	28 (9.3%)	20 (6.7%)

Radiological findings in the painful breast(s) in relation to age group



Among 300 cases, 255 cases were normal, 27 benign, 12 probably benign, 4 suspicious and 2 malignant.

Among cases in < 30 years of age group 23 cases were normal, 2 benign, one probably benign, Out of 30-49 years age group 116 cases were normal, 13 benign, 4 probably benign, one suspicious, from 50-69 years age group 93 cases were normal, 9 benign, 5 probably benign, 2 suspicious and one malignant, while as among > 70 years of age 23 cases were normal, 3 benign, 2 probably benign, one suspicious and one malignant.

Imaging findings for both breasts

Normal	243	80.99
Benign	30	10.0
Probably benign	18	6.0
Suspicious	5	1.66
Malignant	4	1.3

When imaging findings of both breasts were taken, out of 300 cases, 243 (80.99%) were normal, 30 (10%) were benign, 18 (6%) were probably benign, 5 (1.66%) were suspicious and 4 (1.3%) were malignant.

20 of the 300 (6.6%) women had a first degree relative with breast cancer.

The pain was unilateral in 75% and bilateral in 25% of the patients respectively.

The average age was 50.4 years (range 10-86 years).

Most of the radiological findings in the painful breast(s) were either normal 255 (85.0%) or showed benign abnormalities 27 (9.0%).

A further two malignancies were detected in an asymptomatic breast and were confirmed by histological examination. These non-palpable cancers were classified radiologically as malignant.

Histopathology was done in 3 of the 282 women with normal or benign radiological findings in the painful breast(s).

The only abnormality was fibrocystic disease found in one patient. Fine

needle aspiration cytology was done in one of the twelve patients with a lesion that was probably benign, and no malignant cells were detected. Stereotactic or ultrasound guided open biopsy was performed in four patients with suspicious lesions. Histological examination of the specimen showed fibroadenoma in two cases and fibrocystic disease in two.

Histological examination showed cancer in the two patients with a lesion in the painful breast that was classified radiologically as malignant.

SUBSEQUENT BREAST CANCER

Breast cancer was diagnosed in one more patient with in two years of the initial radiological examination.

The reason for the initial referral was a diffuse tenderness of the breasts in these women, and their radiology reports were classified as normal. These cancers were either radiographically occult at initial presentation or had developed after the first mammogram.

CONTROL GROUP

Breast cancer was verified histologically shortly after breast imaging in 4 of 300 (1.33%) control women; radiological findings were classified as suspicious or malignant.

During followup visits no malignancy was detected.

DISCUSSION

In our study the prevalence of breast cancer is 0.66% in painful breasts which is substantially lower than the cancer prevalence of 2.4% in study conducted by Locker et al, reason being they had included palpable mass with breast pain also¹⁵. Leddy R et al also found cancer prevalence of 1.2% in focal breast pain¹⁶. In addition, these authors did not mention whether any of the breast cancers were located in an asymptomatic, contralateral breast in cases where pain was unilateral. In our study total prevalence of breast cancer in the symptomatic group was 1.33%. A comparable cancer prevalence of 1.33% was found in the asymptomatic group, suggesting that pain is not associated with an increase in cancer risk.

Our study suggests that biopsy of a painful area is not indicated in patients with radiological findings that are not suspicious, this strategy is substantially different from the established management of palpable breast lesions where biopsy may follow a negative radiology report. It is well known that mammography or ultrasonography does not always show whether a palpable lesion is malignant.¹⁷⁻¹⁹

However, these results should be interpreted with caution because of the few cancers in our study.

CONCLUSION

Our study suggests that biopsy of a painful area is not indicated in patients with radiological findings that are not suspicious, as in these cases no breast cancers were overlooked.

None of the 12 non-palpable lesions grouped radiologically as probably benign proved to be malignant at follow up. The probability of malignancy in these lesions is 0.5-2% and mammographic surveillance will identify almost all of the lesions.

Therefore, periodic mammographic follow up of lesions classified as probably benign may be a reasonable alternative to biopsy.

We recognise that there are a few limitations in our study.

Our results will be influenced by referral bias. Several women would have been sufficiently reassured by a negative physical examination and would not have demanded a mammogram.

We are not certain that the follow up period of two years was long enough to detect a slow growing breast cancer in the painful area.

The primary value of breast imaging in women with painful breasts seems to be that of reassurance, as no abnormalities are usually detected.

Radiological abnormalities classified as benign do not generally have any clinical consequences.

As an alternative to referral to a breast surgeon, obs gyn practitioners may prefer a mammography.

Biopsy of a painful area is redundant in the case of unsuspected radiological findings.

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