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Women with painful breasts without palpable masses: Do they really need a mammogram?

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Summary
This prospective study was carried out over a period of 36 months, and the study population was, all the women (726) referred for mammograms on account of painful breast(s) without palpable masses. They were matched with the same number of asymptomatic women in a control group. The mammographic findings in the women with painful breast(s) and no palpable masses were normal in 639 (88%) , benign in 80 (11%), suspicious in 2 (0.3%) and malignant in 5 (0.7%). In the control group mammograms showed normal breasts in 625 (86.1%), benign and suspicious lesions in 87(12%) and 7(1.0%) respectively. Malignant lesions were recorded in 7(0.9%) women. The prevalence of breast cancer was similar in women with painful breast(s) and the control asymptomatic cases. Our reports show that inspite of the pain experienced by the women in this study mammography had a low diagnostic yield of malignant lesions, just as it was found in the control group. Mammography therefore, in these patients will only provide reassurance.

Keyword: *Mammogram, painful breast, malignant lesions*

Résumé
Cette étude prospective était faite durant la période de 36 mois et la population étudiée etait des femmes(726) referées pour des mammogrammes sous l'estimation des mal des seins sans masse palpable. Elles étaient croisées avec le meme nombre des femmes saine comme groupe de contrôle. Les données mammographiques chez les femmes ayant les douleurs aux seins sans masse palpable étaient normale chez 639(88%), bénigne chez 80(11%), suspicieux chez 2 (0.3%) et maligne chez 5(0.7%). Le groupe de contrôle 625 (86.1%) avaient des mammogrammes normale, 87 (12%) et 7 (1.0 %) avaient des lésions bénigne et suspicieuse respectivement. Les lésios malignes étaient enregistrés chez 7 (0.9%) des femmes . La prevalence du cancer des seins était semblables chez les femmes ayant des douleurs des seins et aux groupes de contrôle asymptmatiques. Ces rapports montrent que au lieu des douleurs experimentées par les femmes, l'étude mammographique ont un faible résultat du diagnostic des lésions maligne, bien que chez les groupes de contrôle. Ainsi , la mammographie chez ces patients apportera seulement une ré-assurance

Introduction
Mammography is the gold standard in the investigation of breast diseases. It is the technique routinely used for screening asymptomatic, symptomatic, and women with a family history of breast cancers [1,2,3]. Patients with painful breast(s) but no palpable lesion are often referred for further evaluation by mammography. However, the value of breast mammograms in these patients has been a subject of interest in many communities. Hence this prospective mammographic study among Ghanaian women with painful breast(s) but no palpable breast lumps.

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Materials and methods
Between June, 1996 and June 1999, all the women (726), aged between 32 – 75 years with a history of painful breast(s), essentially; heaviness in the breasts, burning sensations in the breast and mastalgia referred to the radiology department, Korle Bu Teaching Hospital for mammography were included in this prospective study. The exclusion criteria were;women with breast pain related to menstruation, women below 30 years and the presence of a palpable mass in the painful breast. Mammography was performed in the craniocaudal and mediolateral oblique views and additional views were done where necessary. Equipment used is a Siemens Mammomat 90. All mammograms were reported by radiologists; KB and MO.

To determine whether breast pain is associated with an increased risk of breast cancer, a comparable control group of asymptomatic women who were referred for screening mammograms as a screening tool for a variety of reasons, for example a family history of breast cancer, fear of breast cancer, routine medical examinations, or reassurance were used in the study. The latter group tended to be mostly educated and belonged to the middle social class. Biopsies and fine needle aspirations were carried out in some of the patients. Mammographic criteria for benignity were coarse, wide-spread macrocalcifications, well circumscribed opacity with a homogeneous appearance and a smooth border. Malignant lesions were however characterized by the following, linear or cluster, microcacifications, inhomogeneous soft tissue opacity of high density with a spiculated border, retracted nipple, thickened cutaneous layer and obliterated subcutaneous space. These mammographic reports were confirmed by histology reports and sonographic findings

Results
During the stipulated period of study, a total of 3,120 women had mammograms in the department and 726 (23%) women had mammograms as a result of pain alone without a palpable mass 736 (23%), asymptomatic controls were matched to cases in relation to age (Table 1). The majority of the women were

Table 1: Age distribution of painful breasts(s) cases and control group.

Age (years)	Control (n-726)	Cases (n=726)
30-39	160 (22%)	174 (24%)
40-49	225 (31%)	217 (30%)
50-59	261 (36%)	233 (32%)
60-69	58 (8%)	73 (10%)
70-79	22 (3%)	29 (4%)

Ghanaians. The breast pain was unilateral in 73% of patients and bilateral in 27% of the patients. Detailed radiological findings of the mammograms are found in Table 2. Table 3 shows the summary of the findings in both the control and the cases.

Table 2: Mammographic appearances in painful breast cases and control in relation to age group

Mammographic findings	Age 30 - 39 Control	Cases	40 - 49 Control	Cases	50 - 59 Control	Cases	60 - 69 Control	Cases	70 and above Control	Cases
Mass:										
Benign	13	15	18	28	15	28	8	9	2	-
Malignant	1	1	3	2	2	2	1	-	-	-
Calcification										
Coarsecalcifications	12	8	5	5	-	3	6	3	1	10
Micro calcifications	1	-	2	1	1	-	-	1	-	-
Distorted breast stroma:										
(suspicious)	1	-	2	-	3	-	-	1	2	-
Axillary lymphadenopathy	7	3	9	12	11	15	3	7	2	19
Nil of above	125	147	186	169	229	183	5	52	15	-

Table 3: Summary of mammographic findings in the control and painful breast(s) (cases)

Control	No	(%)	Cases	No	(%)
Normal	625	(86.1)		639	(88)
Benign mass	87	(12)		80	(11)
Malignant mass	7	(0.9)		5	(0.7) +2 (0.9)*
Suspicious	7	(1.0)		2	(0.3)

* *2 cancers in contralateral asymptomatic breasts*

Eighty eight percent of mammographic findings were normal in the women with painful breasts, while 80(11%) showed masses with benign characteristics. These were confirmed by histology. All the mammographic malignant lesions in the painful breasts were also confirmed by histology. There were two cases of breast cancers detected in the contralateral asymptomatic breast.

Discussion

In our study breast pain alone accounted for 23% of mammography done in our department, while the study of Duijimi *et al* [1] recorded 15% and that of Lockel *et al* [4] was 14.3% in European Women. Our higher percentage of pain could be due to the heavy breasts and / or inadequate breast support observed among Ghanaian women. With the two cancers detected in the asymptomatic contralateral breast, a total prevalence of breast cancer in the symptomatic group was approximately 1.0%, while a comparable cancer prevalence of 0.9% was found in the asymptomatic group, suggesting that breast pain is not associated with an increase in cancer risk [4,5]. These figures are not different from the study of Duijimi *et al.* [1].

As the study shows, no radiological abnormalities were found in most (88%) of the patients with painful breasts. The benign lesions diagnosed radiologically and confirmed by histology consisted mainly of small cysts, lipomas, fat necrosis, fibrocystic disease and microcystic hyperplasia. Larger cysts are a well documented cause of local tenderness, which can be relieved by a cyst puncture and fluid aspiration [6,7]. However, it is also doubtful whether pain can be attributed to a non-palpable cyst a few millimetres in size, because many of these benign lesions will undergo spontaneous regression and further routine intervention is not recommended [8,9].

The patients with suspicious lesions were advised to undertake follow up examinations to ensure early detection of malignant transformation of the lesion [10].

Our study corroborates the findings of previous authors on the low diagnostic yield of mammography in women with painful breasts without a palpable mass [1,4,5]. The authors seem to agree that the role of mammography is essentially reassurance and routine mammography may not be necessary in such patients.

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