To cite this article: Albuz O, Cabuk G, Dulger D , Aydın F. Multidisciplinary Differences in Approaches to Patients Undergoing Breast Examination and Evaluation of Collaborations. Turk J Clin Lab 2023; 1: 116-121

Original Article

Multidisciplinary differences in approaches to patients undergoing breast examination and evaluation of collaborations

Meme muayenesi yaptıran hastalara yaklaşım ve işbirliğinin değerlendirilmesinde multidisipliner farklılıklar

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Abstract

Aim: The purpose of this study is to examine the outpatient clinics of patients admitted to the hospital for breast examinations and the diagnostic process after these applications. It also the seconder aim is the comparison between the general surgery (GS) outpatient clinic and other non-general surgery clinics , for the diagnosis of the breast cancer.

Material and Methods: The patients who came to the GS, internal medicine (IM), and obstetrics and gynecology (OG) outpatient clinics of our hospital between January1, 2015, and June15, 2019, were examined retrospectively. Continuous variables were reported as the mean and standard deviation, whereas categorical nominal variables were expressed as a percentage of the total population.

Results: Between January1, 2015, and June15, 2019, the total number of mammograms required for breast examination was 7998.Of these, 1769 were GS,456 were IM, and 5773 of them were OG outpatient clinics. The mean age was 48±2.3 years in GS, 48±6.7 years in IM, and 47±3.9 years in OG outpatient clinics (p>0.05). The distrubition of the number of malignant breast cases are GS: 43, OG: 21, IM: 5, respectively. In total, 69 breast cancer diagnoses were made. In terms of clinical dominance, the general surgery clinic has emerged as the most effective clinic in putting breast malignancy [AOR: 0.34 (0.21-0.54) (P <0.001)]. Among patients with mammography BIRADS 4 and 5, the risk of malignancy was higher than in those with BIRADS 0-1-2-3 [AOR: 0.81 (0.72-0.9) (P <0.001)].

Conclusion: We believe that the most important cornerstone for the diagnosis of breast diseases, especially concerning malignancy is physical examination, anamnesis, and imaging techniques through which interclinic collaboration.

Keywords: Breast cancer, physical examination, interclinic collaboration

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Doi: 10.18663/tjcl.1250083
Recevied: 17.02.2023 accepted: 26.02.2023
(This work was primarily carried out at 29 Mayıs State Hospital/Ankara-Turkey)

TJCL Volume 14 Number 1 p: 116-121

Öz

Amaç: Bu çalışmanın amacı meme muayenesi için hastaneye başvuran hastaların polikliniklerini ve bu uygulamalar sonrasındaki tanı sürecini incelemektir. İkincil amacı da meme kanseri tanısı için genel cerrahi (GC) poliklinikleri ile diğer genel cerrahi dışı kliniklerin karşılaştırılmasıdır.

Gereç ve Yöntemler: Hastanemizin 1 Ocak 2015-15 Haziran 2019 tarihleri arasında genel cerrahi(GC), Dahiliye (IM), Kadın Hastalıkları ve Doğum (OG) polikliniklerine başvuran hastalar retrospektif olarak incelendi. Sürekli değişkenler ortalama ve standart sapma olarak rapor edilirken, kategorik nominal değişkenler toplam popülasyonun yüzdesi olarak ifade edildi.

Bulgular: 1 Ocak 2015-15 Haziran 2019 tarihleri arasında meme muayenesi için gerekli olan toplam mamografi sayısı 7998'dir. Bunların 1769'u Gc, 456'sı IM ve 5773'ü OG polikliniklerdir. Yaş ortalaması Gc'de 48±2,3, IM'de 48±6,7, OG polikliniklerinde 47±3,9 idi (p>0,05). Malign meme vaka sayılarının dağılımı sırasıyla GC: 43, OG: 21, IM: 5 şeklindedir. Toplamda 69 meme kanseri teşhisi konulmuştur. Klinik hakimiyet açısından genel cerrahi kliniği meme kanseri koymada en etkili klinik olarak ortaya çıkmıştır [AOR: 0,34 (0,2-0,54) (P <0,001)]. Mamografi BIRADS 4 ve 5 olan hastalarda malignite riski BIRADS 0-1-2-3 olanlara göre daha yüksekti [AOR: 0,81 (0,72-0,9) (P <0,001)].

Sonuç: Özellikle maligniteyi ilgilendiren meme hastalıklarının tanısında en önemli mihenk taşının klinikler arası işbirliği ile yapılan fizik muayene, anamnez ve görüntüleme teknikleri olduğuna inanıyoruz.

Anahtar kelimeler: Meme kanseri, fizik muayene, klinikler arası işbirliği

Introduction

The second most common cancer in the world is breast malignancy. It constitutes 10.4% of the cancer incidence counted in both genders and was ranked fifth among cancer deaths (1). It has been reported that breast cancer caused 502,000 deaths worldwide in 2005, accounting for 7% of cancer deaths and almost 1% of all fatal cases (2). Almost a quarter of women experience breast disease throughout their lives (1,2). More women face the risk of breast cancer because of improvements in the life span of people as a result of advances in health systems worldwide. Most women who come to the surgical outpatient clinic complaining of pain in the chest, a lump, or discharge from the nipple (3). There are several methods for the diagnosis of a breast lump, such as mammography, ultrasonography, and fine-needle aspiration cytology, all of which have both medical and financial costs (4). On the other hand, clinical evaluation is both cheap and noninvasive. The patient may be critical as the first step in identifying cases in the meeting with the doctor (5). Evaluating the suspected breast mass as soon as possible and with the correct diagnosis will reduce the mortality and morbidity associated with the disease caused by breast malignancy. Therefore, clinical evaluation is a valuable diagnostic tool. Since clinical examination requires funds and/or facilities for more sophisticated diagnostic methods, it is much more prominent in the diagnosis in rural areas (6). A systematic approach with clinical examination criteria is also important to reduce unnecessary patient admissions or patient expenditures. More importantly, it is essential for the clinician to diagnose malignancy more accurately and to plan the surgical treatment of patients as an outpatient or inpatient. A mass in the chest is a very worrying situation for the patient. Because of this; Reliable, non-invasive and rapid diagnostic examinations help reduce current anxiety and provide an advantage in early diagnosis. The clinical examination is a simple method to detect breast masses and their nature as it is inexpensive and noninvasive and if found to be accurate, might be of great value as a diagnostic tool.

As we briefly emphasized above, we want to examine the approaches of clinics to this step by considering that breast examination is as least as important as a physical examination is in other diseases of medicine. The primary purpose of this study was to examine the incidence of breast cancer among patients who came to different clinics for breast examination and to examine the approaches of each clinic to this patient group. The second purpose of this study was to evaluate the contribution of clinical examination toward the diagnosis of breast cancer.

Material and Methods

On July 10, 2019, and with the study number 90057706-799-E375, permission was obtained from the Etlik Zübeyde Hanım Obstetrics and Gynecology Training and Research Hospital Medical Education Unit. Between January 1, 2015, and June 15, 2019, mammography reports were screened using the Breast Imaging-Reporting and Data System (BI-RADS). Patients

who came to general surgery (GS), internal medicine (IM), and gynecology outpatient (OG) clinics of our hospital for breast examination were retrospectively analyzed. Continuous variables were reported on average and standard deviation, while categorical nominal variables were determined as a percentage of the total population. The distribution status of cases was evaluated by the Kolmogorov-Smirnov test. The Mann-Whitney U test was used for continuous variables or the Student's t-test for independent groups. A Chi-square test will be used for binary variables, or Fisher's exact test will be performed for statistical comparisons between clinical situations according to distribution status. The final results will be achieved by binary multiple regression. Values of p <.05 will be considered statistically significant.

A total of 8024 mammography records were screened after excluding unclear or missing data. The accuracy of clinical assessment at an outpatient facility was determined by comparison with the mammography.

Results

The total number of patients who underwent mammography examination for mammography was 7998. According to clinical distribution, 1769 of them were GS, 456 of them were IM, and 5773 of them were OG outpatient clinics (Figure 1). The mean age was 48 ± 2.3 years in GS, 48 ± 6.7 years in IM, and 47 ± 3.9 years in OG outpatient clinic (p >.05). Of the 1769 patients admitted to GS, 43 patients had malignancy. Malignancy was diagnosed in 21 OG after mammography examination, and malignancy was detected in five patients after mammography examination in the IM clinic (Table1). In terms of clinical dominance, the general surgery clinic has emerged as the most effective clinic in putting breast malignancy [AOR: 0.34 (0.21,0.54) (P <0.001)]. Among patients with mammography BIRADS 4 and 5, the risk of malignancy was higher than in those with BIRADS 0-1-2-3 [AOR: 0.81 (0.72,0.9) (P <0.001)](Table2).

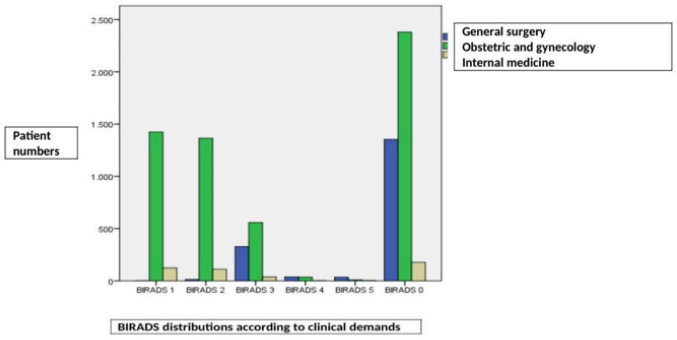

Figure 1: Graph of mammography results by BIRADS distributions

Table 1. The distribution of patient mammograms

	Internal medicine	Obstetrics and gynecology	General surgery	Total number (n)	P <.05
Age (Mean ± SD)	48 ± 6.7	47 ± 3.9	48 ± 2.3		0.13
BIRADS 0	177	2380	1375	3932	
.001					
BIRADS I	124	1424	2	1550	
BIRADS II	111	1365	14	1490	
BIRADS III	37	558	328	923	
BIRADS IV	3	36	15	54 (0.7%)	
BIRADS V	4	10	35	49 (0.6%)	
Meme USG	427	516	815		
The number of malignant breast cases after pathology report	[5 (1.1%) vs. 451 (89.9%]	[21 (0.4%) vs. 5752 (99.6%)]	[43 (2.43%) vs. 1726 (97.57%)]	69 (0.86%)	.01
Total number of mammograms	456	5773	1769	7998	

Table 2. Malignancy risk ratios in terms of clinic and BIRADS distrubitions

		Malign Cases	Benign Cases	P<0.05	Adjusted odds ratio [Exp(B)]	P<0.05
Clinic codes	GS	(90% CI)/Adjusted mean	1726(21.8%)	0.001	0.34(0.21,0.54)	0.001
	OG	difference (90% CI)	P<0.05			
	IM	5 (7.2%)	451(5.7%)			
	Total	69(100%)	7929(100%)			
BIRADS4,5 vs BI-RADS0-1-2-3		67/125(97.1%) vs 2*(2.9%)	0.001	0.81(0.72,0.9)	0.001	
*BIRAD-S 0 cases						

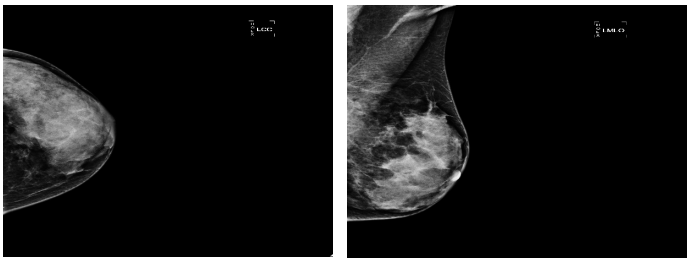

Figure 2a (mediolateral) and **2b** (oblique) mammograph results are samples for BI-RADS 0 breast malignancy.

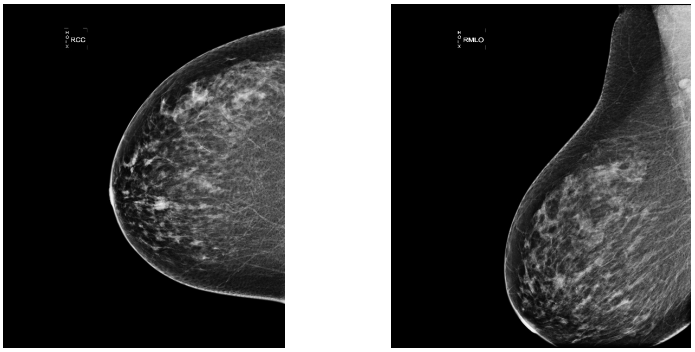

Figure 3a (Right craniocaudal) and **3b** (right mediolateral oblique) BI-RADS 0 mammography diagnosed with malignancy, after surgery.

Discussion

This study is one of the rare studies that investigated the interdisciplinary relationship between routine breast cancer examinations and additional exams that were also important since they included a high number of cases. When we examined the world literature, Huang and colleagues in a study of 1.2 million Chinese women, stated cancer detection rates for urban women (0.6/1000) and rural women (0.5/1000) (7). On the other hand, when we examined other studies in other fields, we found rates to be lower than in the early breast and cervical cancer detection program in the USA (8,9). According to the United Kingdom, (5.4/1000 to 6.7/1000 in the National Health Service Breast Screening Program (NHS-BSP) (10,11) and Canada [Cancer detection rates in the Canadian National Breast Screening Study (CNBSS) data (2.5/1000 to 7.9/1000) CNBSS 2 (3.5/1000)] were found (12,13). The malignancy rate detected in our study was 0.86%, or 8.6/1000, and was consistent with the results of these studies. In addition, Jiagge et al. found that the high incidence of breast cancer among women, especially in low- and middle-income countries (LMICs), is higher because of insufficient sociocultural barriers and early detection programs (14). Sylla and Wild reported that especially suboptimal transportation increased breast cancer mortality (15). With regard to the correct diagnosis of breast masses, Masooda and colleagues reported that breast examination, mammography, and pathological examination after resection of suspicious masses are three important cornerstones (16). Among our series two cese were BIRAD-S 0 and they final pathological results with malignancy (Figure 2a-2b and 3a-3b). More importantly, these two patients belonged to the general surgery clinic. Although BIRADS 0 lesions do not pose a clear risk for malignancy, they cannot be said to be very innocent. Because there is no clear situation in terms of benignity such as BIRAD-S 1 and BIRAD-S 2. Triple evaluation is a very useful diagnostic tool for the successful identification of breast cancer patients and has increased the diagnosis of breast cancer patients by 99.3%. Triple evaluation was particularly useful in detecting most breast cancers at an early stage: Phase I or Stage II (T1 or T2: N0 or N1, M0) (16). In our opinion that especially in cases where mammography is ambiguous, such as BI-RADS 0 lesions, early malignancies can be detected in these lesions, as we see in the GS clinic, thanks to physical examination, anamnesis and radiological imaging. Brown et al. emphasized the use of a multidisciplinary approach that involves GS, OG, and oncology clinics to provide balanced care (17). We think that interclinic cooperation is important for the diagnosis of breast cancer and the distribution of patients referred to the GS clinic with the diagnosis of breast cancer. Because, in our study, we found that 21 patients (30.4%) were referred to the GS clinic with the diagnosis of breast cancer from the OG clinics and the other five cases were referred from IM clinics with interclinic collaboration, especially regarding screening and early diagnosis of breast cancer. Although the OG clinic is thought to have the lowest rate of diagnosing mammographic breast cancer malignancy according to the number of mammographies requested, we attribute this to referrals to the OG clinic of women who are in the perimenopausal period, especially those in the 45-55 year age group. At this point, we see that OG clinics have also performed an important screening task. Therefore, the coordination of the OG clinic with the GS outpatient clinic is of particular importance. Population-based studies have demonstrated that mammography is successful in early diagnosis and can reduce breast cancer mortality (18, 19, 20). In a Cochrane review analysis, it was stated that mammography screening for breast cancer decreases breast cancer mortality. On the other hand, although its effectiveness is not apparent, the estimated relative risk reduction in breast cancer mortality is 15% (21).The American Cancer Society (ACS) also recommends performing a clinical breast examination and mammography in the early diagnosis

of breast cancer (22). Also, the ACS emphasized that women should know how a normal breast is, and healthcare providers need to be informed about the changes that might occur in the early stages of breast diseases and the importance of breast self-examination (BSE). On the other hand, the Cochrane Review does not suggest that screening by BSE has a beneficial effect (23). As part of their periodic medical examinations, the ACS recommends clinical breast examinations every year for women aged 20 to 39 years, and preferably every year for women over the age of 40 years. For women over 40 years of age, an annual mammogram is recommended and continues as long as a woman has good health (24). In our opinion, clinical examination is very important, and if possible, a clinical guideline should be provided to the radiologist who will perform the mammography or ultrasound before the patient is directed to radiology. For this reason, breast examination performed in clinics other than GS should be directed to the GS policlinic after the mammography examination. In our study, other clinics directed patients after mammography to the GS policlinic and accounted for 37.68% of the total number of patients. The clinical breast examination, mammography, anamnesis, and interclinic communication are essential components not to overlook in early stage breast cancer. In our country, mammography for diagnosis and evaluation is paid by the state-financed health insurance programs, and routine mammograms may be requested by family medicine centers (25). However, Dündar et al. stated in their study that only 27%-39% of the women could perform BSE, 23.4% had no information about breast cancer, 27.9% did not have any knowledge of BSE, and 75% had no previous history of breast examination. At the end of their study, Dündar et al. emphasized that 89.3% of cases had not had mammography performed (26).

Conclusion

In our opinion, although the rates of mammography and BSE are much higher today, we think that the clinical breast examination remains low because of direct mammography and breast ultrasound preference. This means that anamnesis, physical examination, radiological examination, and the absence of triple hair foot can lead to delays in diagnosis.

Conflict of interest

The authors declares none any conflict of interests.

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