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Breast Cancer Screening by Clinical Examination: Diagnosis and Future of Suspected Cases in Libreville in 2023

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ABSTRACT

Introduction: *Breast cancer is one of the leading causes of death among women worldwide and screening can improve its management in our context.*

Materials and Method: *This is a retrospective longitudinal study with analytical purposes carried out from October 1, 2022 to December 30, 2024 (27 months) in the gynecology department of the Owendo University Hospital. It concerned all patients who had consulted for the screening of gynaecological and breast cancers. The department's records were used as the source of the data.*

Results: *During the study period, 847 patients were screened, among them, 173 had suspicious breast lesions, i.e. 20.4%. The mean age of the patients was 35.1 ± 13.4 years with extremes from 14 to 68 years, 61.9% were destitute, 45.7% had a secondary education, 40% were alcoholics, and 12.1% had a family history of breast cancer. At the end of the examination, 8 biopsies were indicated (4.6%) and 7 (87.5%) were performed. Fibroadenomas (5 cases) and invasive carcinoma (1 case) were found.*

Conclusion: *Mass screening for breast cancer allows for early diagnosis and appropriate management.*

Keywords

Breast, Cancer, Screening, Suspicious lesions, Biopsy.

Introduction

Breast cancer is a global public health problem. Each year, there are 2.3 million new cases, 11.7% of all cancers, and 685,000 deaths in 2020 [1]. During the period 2015-2020, 7.8 million women were diagnosed with breast cancer, making it the most prevalent type of cancer in the world [2]. It is the[1st] cause of cancer death in women in developing countries [3]. According to the American Cancer Society in the United States, the most recent data (2010-2019) show that the rate is increasing by 0.5% each year and a slight decline in mortality since 1989 in developed countries [4]. In France, breast cancer is the most common female cancer with more than 48,000 new cases per year [5]. In many African countries, the incidence and mortality of breast cancer are not accurately estimated, due to the lack of a cancer registry and for socio-cultural reasons. In countries where it exists, the data are difficult to exhaustive [5]. Nevertheless, we have 679184 new cases and 416898 deaths per year in Africa [6,7]. In several countries in the region, it is 13 to 20% of all cancers and more than 2000 new cases each year [8-10]. According to Globocan, in Gabon in 2022, it represents the 1st cancer in women with 323 new cases (28.5%) and it is also at the top of all cancers for both sexes combined with an incidence of 17.2%, far ahead of prostate cancer (8.1%) [11]. The diagnosis is often made late, making its management complex and expensive [9,12]. The goal of the new WHO global initiative on breast cancer control is to reduce global breast cancer mortality by 2.5% per year, and thus prevent 2.5 million breast cancer deaths between 2020 and 2040 globally [1,2]. One of the pillars to achieve this goal is screening. It allows for the early detection of lesions, a more effective, less burdensome and less expensive treatment. This

procedure, which is carried out on occasion, is poorly structured and difficult in our context. The objective of our work was to study the fate of suspected cases during breast cancer screening by clinical examination in our environment.

Materials and Methods

This is a descriptive and analytical retrospective study, carried out in the gynecology department of the Owendo University Hospital in the gynecological and breast cancer screening unit in the period from October 1, 2022 to December 30, 2024, i.e. 27 months. It concerned all patients who consulted for breast cancer screening during the study period. We included all those with a suspicious breast lesion on clinical examination as well as those with functional symptoms. Screening for gynaecological and breast cancers is one of the department's consultation activities, and is done by appointment by midwives. They call on a doctor in case of doubt or necessity. This activity is accentuated during the so-called Pink October period. Screening is done in an equipped consultation room. After an interview that collects identification, gynecological and obstetric history, habits and lifestyle and functional symptomatology related to the breast. This is followed by a physical examination that begins with the general examination and then the breast examination. This will be done in the home of the woman who is completely undressed, seated and with her arms raised. We will note the signs on inspection and pat-down.

We have retained as suspects:

- Pain
- Bloody discharge
- A deformation
- An orange peel appearance
- A arch
- An ulceration
- A retraction
- Skin necrosis
- A nodule
- Other abnormal lesions

If necessary, this clinical assessment is completed by a mammogram, an ultrasound and a biopsy. It is a free consultation and all paraclinical examinations are paid for by the universal health insurance. We did not include from the study those with no suspicious lesions, those with clinical cancers and those with cervical lesions. We excluded patients with incomplete records and missing patients from the study. A data collection sheet was established using the physical files and the various outpatient consultation registers. The data were completed by telephone. This made it possible to study epidemiological, clinical, paraclinical, diagnostic and therapeutic variables. The data was entered using Microsoft's Excell software and the analysis carried out using the calculation functions of the XLSTAT 2022 software. For quantitative variables, normality tests were performed. They allowed us to use either the standard mean or the median associated with the interquartile range. In both cases, the extremes were specified. For the comparison of the means, we used the Student or Mann-Whitney test after performing the normality tests. For the frequency, we used the exact Fisher test or Pearson's Chi2 depending on the theoretical numbers. The significance level was 0.5% and the risk ratio (RR) was within the 95% confidence interval.

Results

During the study period, 847 patients were treated for gynecological and breast cancer screening. Of these, 197 had suspicious lesions. With regard to the inclusion criteria, we retained 173 patients or 20.4%. The mean age of patients was 35.1 ±13.4 years with extremes of 14 to 68 years. The age group of 19 to 34 years old represented 48.5% (84 cases) and those over 35 years old 42.8% (71 cases). Professionally, 61.9% (107 cases) were destitute, of which 44% (47 cases) were female learners and overall, 51% (98 cases) had a secondary education. In terms of marital status, 51% (88 cases) were single and 45.7% (79 cases) were living with a partner. Alcohol consumption and tobacco addiction were found in 40% (69 cases) and 12.1% (21 cases) of patients, respectively, and 29% (50 cases) had a body mass index of more than 25kg/cm2 (Table 1). For the gynecological and obstetric past, the mean parity was 2.21±2.15 with extremes of 0 to 10 pares, nulliparous represented 26.6% (46 cases). The mean age of menarche was 13.1±2.4 years with extremes of 10 to 19 years, those occurring between 10 and 14 years of age accounted for 69.9% (121 cases) and 83.2% (144 cases) were not postmenopausal. The mean age of onset of the 1st pregnancy was 19.3±1.6 years with extremes of 14 to 35 years, 45.7% (79 cases) were under 20 years of age and 25.4% (44 cases) were niliges. For breastfeeding, the practice was found in 72.8% (126 cases) of patients with a mean duration of 9.2±3.4 months with extremes from 0 to 24 months. In this case, 27.1% (47 cases) had never breastfed and those who had done so for 7 to 11 months accounted for 52% (90 cases). The notion of contraceptive use was found in 11.1% of patients (20 cases) and the average duration of contraceptive use was 7.12±2.4 months. A family history of breast cancer was found in 12.1% of patients (21 cases). Functionally, mastodynia was found in 45.1% of patients (78 cases) and nipple discharge in 3.5% (6 cases). The signs found on inspection as well as those of the pat-down are shown in Table 2. Thus, the skin was healthy in 93.1% of patients (161 cases) and the nodule on palpation was found in 66.5% (115 cases). The location was the left breast in 61.3% (106 cases). For the paraclinical assessment, ultrasound was prescribed in 82.1% of patients (142 cases), mammography in 26.6% (46 cases) and biopsy in 4.6% (8 cases). The number of examinations carried out and the results are shown in Table 3. Thus, for fibroadenoma of the breast, suspicion was raised in 8 cases, only 6 (75%) were performed and the anatomical pathology results had confirmed 5 (3%). For fibroadenoma, statistical analysis did not allow us to isolate a particular profile when comparing those with and without (Table 4). Invasive carcinoma (0.6%) of the right breast was found. In this case, she was 35 years old and had a family history of breast cancer. Palpation had found a fixed, hard nodule with satellite lymphadenopathy and the involvement was the right breast (Table 5). All the pathologies identified had benefited from surgical treatment and the carcinoma was treated at the Libreville Cancer Institute (Table 6).

Table 1: Patient profile.

Parameters studied	n	%
Ages (an)		
19-34	84	48,5
> 35	71	42,8
Resources		
Sans	107	61,9
Grade levels		
Secondaire	98	50,9
Non scolarisées	12	6,9
Statut matrimonial		
Single	88	50,9
Couple	79	45,7
Tobacco		
Not	172	99,4
Alcohol		
Yes	69	40
Not	104	60
Family History of Breast Cancer		
Yes	21	12,1
Not	152	87,9
BMI		
> 25kg/cm^2	50	28,9

Table 2: Variables Associated with Fibroadenoma.

Variables studied	N = 173 n (%)	Fibroadenomas Not (n = 168) n (%)	Fibroadenomas Yes (n = 5) n (%)	*p-value*
Age (years)				0,3
19 – 34	84 (48,5)	79 (94)	5 (6)	
Menarches (years)				0,3
10 – 14	121 (70)	116 (96)	5 (4)	
Age 1st pregnancy (years)				0,7
< 20	79 (45,6)	77 (97,5)	2 (2,5)	
20 – 34	49 (28,3)	48 (98)	1 (2)	
> 34	1 (0,5)	1 (100)	0 (40)	
Latest	44 (25,4)	42 (95,4)	2 (45,6)	
Duration of Breastfeeding				0,3
No breastfeeding	47 (27,1)	45 (95,7)	2 (4,3)	
1 - 6	6 (3,4)	6 (100)	0	
7 – 11	90 (52)	89 (99)	1 (1)	
> 11	30 (17,3)	28 (93,3)	2 (6,7))	
Menopause				0,6
Not	144 (83,2)	139 (96,5)	5 (3,5)	
Contraception				0,5
Yes	20 (11,5)	19 (95)	1 (5)	
Not	153 (88,4)	149 (97,4	4 (2,6)	
History of cancer				0,9
Oui	21 (12,1)	21 (100)	0	
Not	152 (87,8)	147 (96,7)	5 (3,3)	
Alcohol				0,9
Yes	69 (40)	66 (95,6)	3 (4,4)	
Not	104 (60,1)	102 (98)	2 (2)	
Tobacco				0,9
Not	172 (99,4)	167 (97,1	5 (2,9))	
BMI > 25kg/cm^2	50 (29)	50 (100)	0	

Table 3: Clinical aspects of suspicious lesions and their locations.

Types de lesions	n	%
Functional signs		
Mastodynies	78	45,1
Nipple discharge	6	3,5
Inspection		
Orange peel	1	0,6
Arch	4	2,3
Abscess	7	4
Skin seine	161	93,1
Palpation		
Nodule	115	66,5
Lymphadenopathy	7	4
Localisations de la lesion		
Left breast	106	61,3

Table 4: Variables associées au carcinome invasif.

Variables étudiés	N = 173	Carcinome invasif Non (n = 172) n (/%)	Carcinome invasif Oui (n = 1) n (/%)
Age (ans) 19 – 34	84 (48,5)	83 (98,8)	1 (1,2)
Resources Sans	107 (61,8)	106 (99)	1 (1)
Statut matrimonial Mariée	79 (45,6)	78 (98,7)	1 (1,3)
Assurance maladie Oui	140 (80,9)	139 (99,3)	1 (0,7)
Ménarges (ans) 10 – 14	121 (70)	120 (99,2)	1 (0,8)
Age 1ère grossesse (ans) < 20	79 (45,6)	78 (98,7)	1 (1,3)
Durée de l'allaitement (ans) 7-11	90 (52)	89 (99)	1 (1)
Ménopause Non	144 (83,2)	143 (99,3)	1 (0,7)
Contraception Non	153 (88,4)	152 (99,3)	1 (0,7)
Alcool Oui	69 (40)	68 (98,6)	1 (1,4)
Histoire familiale de cancer Oui	21 (12,1)	20 (95,2)	1 (4,8)
Tabac Non	172 (99,4)	171 (99,4)	1 (0,6)
IMC > 25kg/cm^2	50 (29)	50 (100)	0

Table 5: Paraclinical examinations performed.

Exams	Paraclinical examinations Ultrasound (n/%)	Paraclinical examinations Mammography (n/%)	Biopsy (n%)
Prescribed	142 / 82,1	46 / 26,6	8 / 4,6
Made	62 / 43,6	30 /65,2	7 / 87,5
Results			
Normal	47 / 75,8	18 / 60	1 / 14,3
Fibroadenoma	3 / 4,8	3 / 10	5 / 71,4
Cyst	3 / 4,8	-	-
Invasive carcinoma	-	-	1 / 14,3

Table 6: Gynaecological and obstetric profiles.

Variables studied	n	%
Menarches (years)		
10 - 14	121	69,9
15 -19	52	30,1
Contraception		
Yes	20	11,6
Not	153	88,4
Duration of contraception (months)		
< 3	7	35
> 3	13	65
Menopause		
Oui	29	16,8
Non	144	83,2
Age first pregnancy (year)		
< 20	79	45,7
20 -34	49	28,3
≥ 35	1	6
Parity **2,2**±2,14 [0-10]		
0-1	77	44,5
2-4	55	31,7
Plus 4	41	23,8
Breastfeeding		
Oui		
Duration of Breastfeeding (months)		
1 - 6	6	3,5
7 - 11	90	52
> 12	30	17,4

Discussion

Like any retrospective study, our series presented difficulties in data collection. The files are incomplete. The operator who screens is the same one who fills in the register and despite the telephone numbers, some patients are not reachable and sometimes reluctant. Other authors in our context have encountered the same difficulties. [9,10]. Strengthening human resources and digitizing the medical record can help solve this problem. Like other cancers, breast cancer is an excellent model for screening [13,14]. This makes it easy and inexpensive to treat. It is one of the pillars of the WHO in the fight against cancer mortality [1,15], In our context, screening is rarely a reason for consultation. The mobilization is only significant during the month of October, the month of screening for women's cancers. Systematic screening is not yet ingrained in the habits of our populations; hence the abundance of cases has evolved [12,16]. Despite the monocentric nature of our study, the results of which do not allow us to refer them to the general population, we were able to describe and identify the epidemiological, clinical and paraclinical aspects of patients with suspicious breast cancer lesions. Thus, breast abnormalities represent 20.4%. Keita in Mali in 2021 regained 3.1% [17]. Our figure is high, we have taken into account all types of abnormalities, even the least suspicious such as pain and abscesses. In addition, the median age of patients is 35.1 years with extremes of 14 to 68 years. Those aged 19 to 34 represent 48.5%. This screening here is not targeted. Our sample is large, it's all comers, even those without risk. Breast cancer is common in women over 50 years of age and even if those under 40 years of age are not spared (10%) [18]. In the literature series, the median age is higher. In these series, screenings are targeted and systematic from the age of 50 [14,18,19]. Functionally, the signs described are reasons for consultation and not for screening. These are mastodynia (45.1%) and breast discharge (3.5%). Keita did not report mastodynia, he found 27% of cases of breast discharge [17]. We only considered bloody discharge and at the screening stage the pain should not have been considered suspicious. On visual inspection, the skin is healthy in 93.1% of cases and methodical palpation, which is a key examination, suggests a nodule in 66.5% of cases. The notion of skin does not exclude cancer. Most breast cancers have no visible symptoms, making early detection particularly complex [20]. In revenge, the nodule is very suggestive of cancer in 50-year-old women and can be associated with other signs such as a hard and fixed character. In young women it is often in favor of a fibroadenoma [9,12]. We ordered ultrasound in 142 patients (82.1%). It is indicated before the notion of nodule and systematic in patients over 50 years of age as recommended by some authors and learned societies [19,21]. In our series, less than half (43.6%) 62 cases were realized. These are those reported missing as well as those who have not been able to do so due to lack of resources. The free nature of this examination is not yet clarified in our context. The results suggested a fibroadenoma in 3 cases (4.8%). Mammography was damanded in 46 patients (26.6%). This is the master examination for several authors [22,23]. Since 2009, it has been associated with tomosynthesis [24]. Popularized in the West, it is a mammography technique that makes it possible to obtain a digital image reconstructed in three dimensions. We don't have the technology yet. As with ultrasound, the expensive or inexpensive nature of this examination makes it difficult to perform (65.2% in our study). For pathological anatomy, 8 biopsies were prescribed, 1 (14.3%) lost to follow-up, 1 invasive carcinoma and 5 fibroadenomas were diagnosed. These results are not far from those of Keita in Mali [17]. Risk factors for breast cancer are clearly identified today [24]. Among these factors is the family history of breast cancer, in the case of our patient. She is 35 years old, married, unemployed, a large multiparous woman and breast cancer in her mother. She has a nodule suspicious of malignancy of the infero-external quadrant of the right breast with lymphadenopathy. For this type of history, individual screening is recommended because the level of risk is high. It is a clinical examination from the age of 20 and 5 years before the age of onset of the case, associated not only with mammograms, but also with ultrasound and breast MRI [15,24]. In our environment we are far from and practice these warnings. For all of our results, we did not find a statistically significant link between the pathologies identified and the variables studied. A multicenter study is necessary. Invasive carcinoma is an advanced form that has eluded early diagnosis. This result shows us the difficulty, despite the policies put in place, for mass screening. It also highlights the negligence and ignorance of some patients despite their medical pasts. For some authors, difficulty in accessing quality care, lack of resources and socio-cultural considerations are identified factors that may justify this neglect of consultation [25,26].

Conclusion

As in almost all countries, breast cancer is currently the number one female cancer in Gabon. It is diagnosed at the late stage, which makes its management cumbersome. Mass testing can reverse this trend. However, it is difficult to get organized, the campaigns are limited to the month of October and do not affect rural areas. In addition, paraclinical and therapeutic care is not suitable. The development and promotion of early diagnosis and screening by mammography and ultrasound are inevitable for an effectiveness in the expected results. Raising awareness among the general public, improving technical platforms and training health professionals is essential to achieve the desired objectives.

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