


Epidemiological and Diagnostic Aspects of Breast Cancer in Men in Bangui (Central African Republic)

Eva Elémence Tapandé Yakossa¹, Heritier Yannick Sombot-Soule², Barbara Esther Ouansaba¹, Petula Anicette Mirotiga Ngboko³, Christelle Niamate Lemotomo⁴, Borel Christ Tambala⁵, Foxy Vivian Nalimo Mbalanga¹, Yannick Henri Danzy¹, Merline Belkpi¹, Thierry Nzoro¹, Wane Heredeibona¹, Francky Kouandogui⁵, Boniface Koffi¹

¹Department of Anatomical and Cytological Pathology, National Laboratory of Clinical Biology and Public Health (LBNBCSP), University of Bangui, Bangui, Central African Republic

²Mama Elisabeth Domitien University Hospital, University of Bangui, Bangui, Central African Republic

³Department of General Surgery, University Hospital of the Sino-Central African Friendship, University of Bangui, Bangui, Central African Republic

⁴Department of Public Health, University of Bangui, Bangui, Central African Republic

⁵National Medical Imaging Center of Bangui, University of Bangui, Bangui, Central African Republic

Email: tapseva04@gmail.com

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Abstract

This 15-year cross-sectional study describes the epidemiological, clinical, and histological characteristics of 11 male breast cancer cases diagnosed in Bangui, Central African Republic. The results indicate that the disease is rare, typically diagnosed at an advanced stage (ACR IV/V) with non-specific carcinoma, and affects men with a mean age of 54 years. The authors highlight the significant delay in consultation and the need for increased awareness to improve prognosis. Breast cancer in men is a rare pathology that is little known in the Central African Republic. The diagnosis is suspected by clinic, imaging and confirmed by histology.

Keywords

Cancer, Breast, Man, Bangui

1. Introduction

Breast cancer is a real public health problem, with 1.2 million cases diagnosed each year [1]. It is the leading cancer in women in the world. In sub-Saharan Africa, it is responsible for 91252 cases of death per year [2]. In the Central African Republic, it accounted for 59.08% of gynecological-breast cancers in 2021 [3]. This cancer re-

mains rare in men and accounts for about 1% of male cancers and 1% of breast cancers worldwide [4] [5]. But although rare, its incidence has been gradually increasing, ranging from 0.86/100,000 inhabitants to 1.06/100,000 inhabitants over the last three decades [6]. The risk factors for breast cancer in men are age, obesity, African ancestry, the family factor linked to the gene mutation and finally the positive family history of breast cancer, which represents by far the most incriminated factor, for which the risk is multiplied by 2 [7]. The lack of knowledge about this cancer by the general public means that the existence of breast nodules in men does not elicit the same reaction as in women, which can delay the diagnosis and make the prognosis bleak [7]. Given the rarity of this pathology, few studies have been carried out in the Central African Republic and have focused on clinical cases [8], which is why we propose to conduct this study on a series of cases diagnosed at the pathological anatomy and cytology department of the National Laboratory of Clinical Biology and Public Health (LNBCSP).

2. Material and Method

This was a 15-year descriptive study (January 2010 to January 2025). It is carried out in the pathological anatomy and cytology department of the LNBCSP and focused on cases of mammary tumours in men, recorded during the study period. These cases were suspected mainly at the national medical imaging center in Bangui, however the samples came from the general surgery department of the Central African Sino Friendship University Hospital. All histologically proven cases of male breast cancer were included in the study

The parameters studied were socio-demographic variables (age, time to consultation, lifestyle and history), clinical aspects, imaging aspects (ultrasound based on the ACR classification) and histological aspects (macroscopy and microscopy).

The sampling was comprehensive, consisting of all cases of mammary tumours in men, regardless of age, recorded during the study period, meeting the inclusion criteria.

The use of the electronic databases of the cancer registry housed within the department, examination reports, and histopathological examination reports made it possible to identify cases meeting the inclusion criteria in order to proceed with data collection and data processing.

The data was entered on the Word and Excel software and analyzed on the Epi Info 3.5 software.

Regarding the technique, the samples were fixed with 10% formalin, analysed according to the standard technique (paraffin impregnation, microtome cutting, slide spreading and hematoxylin eosin staining). Immunohistochemistry was not performed due to lack of availability of the necessary antibodies.

As for informed consent and ethical clearance, our study was cross-sectional and retrospective, using electronic databases, record registers and indexes, and examination forms. Also, it was not possible to obtain the consent of the patients. However, we worked in accordance with the confidentiality of the laboratory's data and the data collection sheets were anonymous.

3. Results

In 15 years of study, out of 1801 cases of all cancers combined and 763 cases of breast cancer diagnosed in the department, we collected 11 cases of breast cancer in men; which represents a frequency of 0.6% of all cancers and 1.4% of all breast cancers. The majority of our patients have consulted at an advanced stage of their disease, with an average consultation duration of 12 months.

Patients ranged in age from 34 to 75 years with a mean age of 54.72 years.

Some risk factors have been found in some patients and are shown in **Table 1**.

Table 1. Distribution of cases according to epidemiological data.

Age	Workforce	Percentage
≤50	3	27.27
≥50	9	81.81
Personal history		
Obesity	2	18.18
Gynecomastia	3	27.27
Family history		
Family cancer	4	36.36
Lifestyle		
Alcohol	4	36.36
Tobacco	2	18.18

The clinical aspects frequently found were nodules, breast pain and nipple retraction (**Table 2**).

Table 2. Distribution of cases by clinical aspects.

Clinical	Workforce	Percentage
Nodules	8	72.72
Pain	6	54.54
Skin ulceration	1	9.09
Lymph nodes	4	36.36
Bloody flow	2	18.18
Nipple retraction	5	45.45

On ultrasound, five (5) patients had an IV ACR, and six (6) had axillary lymph nodes (**Table 3**).

From an anatomopathological point of view, the samples received were all op-

erative specimens, which presented on macroscopy, a predominance of lesions of nodular appearance with size varying from 20 to 90 mm and an average of 57.2 mm. The lesions were poorly defined, sometimes stellate with a polychrome appearance with territories of haemorrhage and necrosis, of firm and sometimes cartilaginous consistency.

Table 3. Ultrasound aspects.

Ultrasound	Workforce	Percentage
ACR IV	5	45.45
ACR V	2	18.18
Lymph nodes	6	54.54

Figure 1 shows an axial ultrasound scan showing a hypoechoic intramammary formation with blurred contours and a slight posterior enhancement related to a nonspecific breast lesion classified as ACR IV in a young 40-year-old subject (source CHUMED).

Figure 2 shows an axial ultrasound scan showing another hypoechoic intramammary formation with irregular contours, peripheral fatty infiltration, and some internal calcifications related to a breast lesion classified as ACR V in a 65-year-old subject (source: CNIM of Bangui).

On microscopy, all the lesions examined were carcinomas of non-specific types, with one case of ulceration with skin infiltration leading to Paget's disease. The SBRM II grade was predominant.

Figure 3 shows a case of SBRM II grade non-specific breast carcinoma diagnosed in a man in the Department of Pathology and Cytology at the LNBSCP. The rest of the microscopic results are detailed in **Table 4**.

Table 4. Histological aspects.

Histology	Workforce	Percentage
Size		
T1	1	9.09
T2	2	18.18
T3	5	45.45
T4	3	27.27
Lymph node		
N1	3	36.36
Histological types		
Non-specific carcinoma	11	100

Continued

Paget	1	9.09
Grade SBRM I	1	9.09
Grade SBRM II	8	72.72
Grade SBRM III	2	18.18
Lymph node metastasis	3	36.36

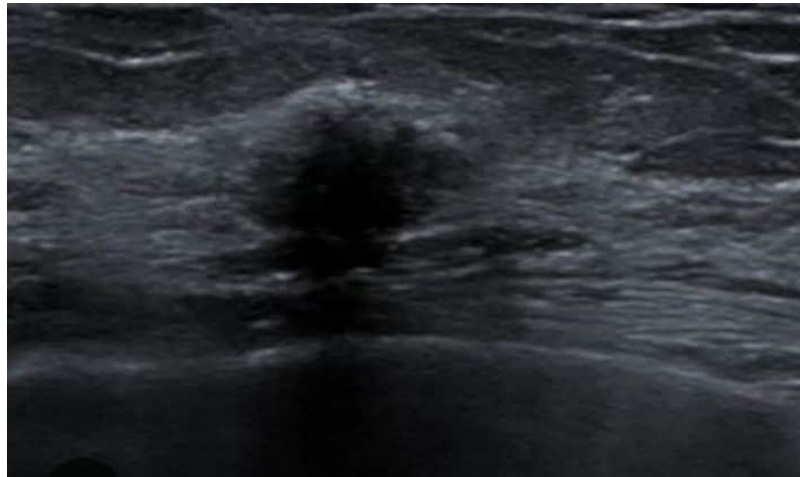
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Figure 1. Axial ultrasound section showing a hypoechoic intramammary formation with blurred contours with a discrete posterior reinforcement in relation to a non-specific breast lesion classified as ACR IV in a young subject of 40 years old (source CHUMED).



Figure 2. Axial ultrasound section showing another hypoechoic intramammary formation with irregular contours with peripheral fat infiltration and some internal calcifications related to a breast lesion classified ACR V in a 65-year-old subject (source CNIM of Bangui).

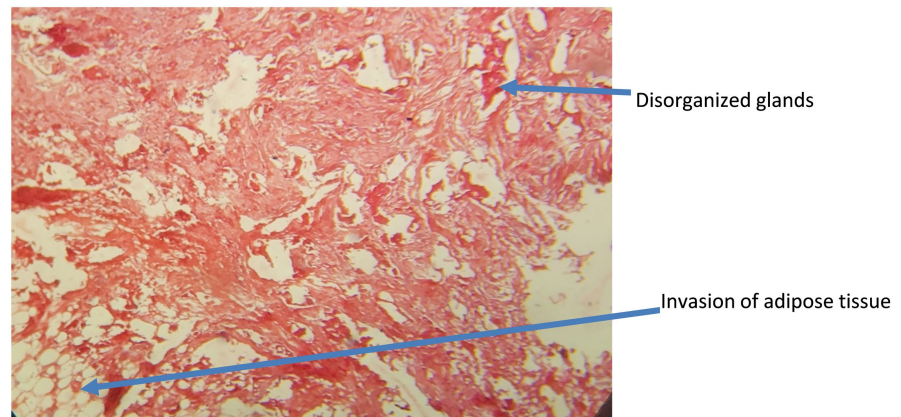


Figure 3. (HEX 20): microscopic image of non-specific breast carcinoma (source LNBCSP).

4. Discussion

This cross-sectional study had limitations due to data collection based on examination reports, most of which were poorly informed. This justifies some of the missing information. However, these limitations do not reduce the reliability and quality of this study.

In 15 years of study, out of 1801 cases of all cancers combined, and 763 cases of all breast cancers collected, 11 cases of breast cancer in men were recorded. This represented 0.6% of all cancers and 1.4% of breast cancer. These data proved that this cancer is rare in the Central African Republic, confirming the opinions of several authors [4] [5] [9]. This rarity of breast cancer in men means that the clinical manifestations are underestimated and trivialized; The same observation has been made by other authors [8] [9], for whom the clinical manifestations of breast cancer in men did not raise the same concerns as in women. The trivialization of symptoms by patients meant that they consulted at an advanced stage of the disease with an average consultation duration of 12 months after self-examination. These results are also observed by Odo [10].

The average age of mammary cancer onset in men in this series was 54.72 years, significantly higher than that of Tunon in France, which was 53 years [11]. On the other hand, this age is lower than that of Laabadi in Morocco and Odo in Côte d'Ivoire, which have regained an average age of 65.3 and 62.45 years, respectively [9] [10]. However, all of these studies have proven that the frequency of breast cancer in men increases with age. This average age of the man in our study is relatively higher than that of the woman found by Ouansaba in Bangui, which was 48.5 years [12]. These data confirm those of other authors who found that the average age of breast cancer in men was 5 times higher than that of women. [11] [13] [14].

Several risk factors were found in our study, including the family history of cancer, which represented 36.36%. Several studies have focused on this factor, which is thought to multiply the risk of occurring by a factor of 2.5 [5] [9]. The gynecomastia found in our study is also a significant contributing factor [8] [14].

Clinically, breast nodules, pain, and nipple retraction were the predominant

symptoms. The same observation was reported by the literature [5] [8,13] [15]. Although these signs are no different from those of breast cancer in women [16], they have not caused enough concern to allow our patients to seek medical attention immediately after their discovery. This could be explained by a lack of information on the existence of this cancer in men, hence the need to focus on raising awareness among men in the same way as women.

On imaging, out of 7 patients who performed breast ultrasound, 5 had lesions classified as ACR IV and the other 2 had lesions classified as ACR V, for which the diagnosis of cancer was confirmed by histology. However, we can say that the number of breast cancer in men was underestimated in this study. Indeed, lesions classified as ACR 2 or 3, benign lesions, for which histopathological examination is never recommended, may in fact be in favor of malignant lesions. In reality, some breast lesions classified as ACR 2 in favor of a fibroadenoma could be a mucinous carcinoma [17]. On the other hand, any lesion classified as ACR 3 must be subsequently checked with a view to reclassifying ACR 2 (strictly benign lesion) or ACR 4 (lesion suspected of malignancy, requiring histological proof). Thus, the diagnosis of a breast lesion on ultrasound must not only take into account the imaging aspects, age and other risk factors must also participate in the diagnosis. Also, any ACR 3 lesion must be reviewed later for confirmation or denial. All of this stems from certain theoretical considerations. However, our study only concerned lesions classified as ACR4 and ACR5.

In anatomical pathology, the majority of the tumors examined were classified as T3 and T4, which corroborates the data of the other authors [10] [11], thus proving that these tumors are diagnosed at a largely advanced stage. Non-specific invasive carcinoma, found as a histological type in our study, was superimposed on the results of the other series [10] [18] [19]. On the other hand, Kouandongui reported a case of lobular carcinoma in Bangui during a clinical case [8]. Paget's disease found in our series was also found in a Burkinabe series [20]. However, all these histological types are hardly different from those of women [19] [20]. The lymph node damage found both in the clinical examination and on ultrasound was also confirmed by histology showing lymph node metastasis. This metastatic form, which represented 36.36%, varied between 15% -26.3%, in other African series [21] [22], but it remains weak or even absent (0 to 2%) in Europe [23] [24].

Immunohistochemistry, which was not performed in this study, is nevertheless essential for classifying tumor types. This could improve cancer management and, consequently, the prognosis

5. Conclusions

Breast cancer in men is a rare pathology in the Central African Republic and little known to the male population. This lack of knowledge means that the symptoms are underestimated by men, thus lengthening the time to consultation, and delaying the diagnosis. It is a cancer of the elderly whose most incriminating factors are the family history of cancer and gynecomastia. The diagnosis can be suspected at

the clinical examination and on ultrasound. The common histological type is infiltrating carcinoma of the non-specific type and does not differ from that of women.

Given the grim prognosis caused by delayed diagnosis, emphasis must be placed on raising awareness among the general public about recognizing early signs and screening by self-examination, which are the most commonly used methods in women.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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