



Management of a Case of Male Breast Cancer in a Reference Hospital in Yaoundé: Clinical Case and Review of the Literature

Henri Léonard Mol^{1*}, Junie Annick Metogo Ntsama^{1,2}, Sandrine Mendibi², Claude Hector Mbia¹, Claude Cyrille Noa Ndoua^{1,2}

¹Faculty of Medicine and Biomedical Sciences, University of Yaoundé I, Yaoundé, Cameroon

²Gynaecological Endoscopic Surgery and Human Reproduction Teaching Hospital, Yaoundé, Cameroon

Email: *henrimol4@gmail.com

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Abstract

Breast cancer in men is a rare pathology. It represents approximately 1% of breast cancers and 1.2% of male cancers. We report the clinical case of a 54-year-old man referred from a health facility for the management of a non-painful right breast swelling that had been present for 2 months. A breast ultrasound was performed revealing an increase in the glandular parenchyma of the right breast, with the absence of a mass or nodule, classified ACR BI-RADS 2 (American College of Radiology—Breast Imaging Reporting & Data System). There was no significant past medical history. Clinical examination on admission revealed breast asymmetry on inspection, with the right breast being increased in size. On palpation, there was right retro-areolar tumefaction of about 3 cm, and right peri-areolar stiffness. Both breasts were non-tender, and there was no discharge nor palpable axillary lymph nodes bilaterally. The diagnosis of right gynecomastia was made with a differential of right breast cancer. A breast biopsy was done and histopathology analysis was in favor of a carcinoma. A right total mastectomy with axillary lymph node dissection was performed with favorable postoperative outcomes. The histopathological and immuno-histochemical analysis of the surgical specimen revealed foci of atypical ductal hyperplasia associated with cylindrical metaplasia with oestrogen, progesterone and HER2 (Human epidermal growth factor Receptor 2) receptors. The patient was put on Tamoxifen 25 mg 1 tab/day and adjuvant radio-chemotherapy started.

Subject Areas

Gynecology & Obstetrics

Keywords

Management, Breast Cancer, Male

1. Introduction

Breast cancer is a malignant proliferation of cells constituting the breast. Its occurrence in men is rare and it represents approximately 1% of all breast cancers and less than 1% of all male neoplasias [1]. The incidence of breast cancer in men has increased by 26% over the last 25 years according to Giordano *et al.* [2]. Family history of breast cancer, genetic mutations of Breast Cancer gene 1 (BRCA1) and Breast Cancer gene 2 (BRCA2), Klinefelter syndrome, exposure to radiation or even liver cirrhosis are the main known risk factors. In addition, the presence of gynecomastia, obesity, alcohol consumption, oestrogen-based treatments or even testicular disorders have also been identified as risk factors [3].

However, the treatment of breast cancer in men involves several therapeutic modalities. Total mastectomy is the treatment of choice. Postoperative radiotherapy, hormonal therapy or even chemotherapy are also other therapeutic modalities [4]. Thus, the aim of our work is to present the rarity of the case and the difficulties of treating male breast cancer in our context.

2. Case Presentation

This was a 54-year-old patient who was referred from a health facility for management of right breast swelling that had been present for 2 months without any notion of pain, discharge or palpable mass. A breast ultrasound performed in the said health facility revealed glandular hypertrophy of the right breast tissue with absence of mass or nodule, classified ACR BI-RADS 2. There was no significant past medical history.

On clinical examination, he had a good general condition and normal body mass index. Breast examination revealed breast asymmetry on inspection with the right breast being increased in size. On palpation, there was right retro-areolar tumefaction of about 3 cm, and right peri-areolar stiffness (Figure 1). There was no nodule, tenderness nor discharge on either side. There were no palpable axillary lymph nodes bilaterally. A breast biopsy was done and histopathology analysis was in favor of a carcinoma.

In view of the clinical and para-clinical elements available, the diagnosis retained in this patient was breast cancer with a differential of right gynecomastia.

Curative treatment consisted in performing a right total mastectomy with right axillary lymph node dissection, and preservation of the pectoralis major and minor muscles according to MADDEN (Figure 2). A suction drain was placed and the wound was closed with an intradermal suture (Figure 3). The postoperative course was unremarkable. The surgical specimen was sent for histopathological analysis.



Figure 1. Image depicting right breast hypertrophy.



Figure 2. Intraoperative image of total mastectomy with preservation of the pectoral muscles according to MADDEN.



Figure 3. Image of the surgical scar with suction drain.

The histopathological and immuno-histochemical analysis of the surgical specimen revealed foci of atypical ductal hyperplasia associated with cylindrical metaplasia with oestrogen, progesterone and HER2 receptors without notion of lymph node involvement. The patient was put on Tamoxifen 25 mg 1 tab/day, which is the first-line treatment in hormone-sensitive male breast cancer. Adjuvant radiotherapy and chemotherapy were equally started.

3. Literature Review

Breast cancer in men represents approximately 1% of breast cancers [1]. El

Ketroussi *et al.* in a study conducted in Algeria found a frequency of male breast cancer of 1.2% of all male neoplasias [5].

The average age of onset of breast cancer in men varies in the literature from 62 to 67 years [1] [6]. Our patient is relatively younger than in the literature. However, cancer is a pathology of older men, mainly affecting men over 50 years of age.

Several factors have been identified in the occurrence of breast cancer in men. The main factors identified are genetic factors. Family history of breast cancer, Klinefelter syndrome or the occurrence of genetic mutations in the BRCA1 and BRCA2 genes are the main genetic factors [7]. The BRCA1 and BRCA 2 genes being tumour suppressor genes, their mutations will be responsible for a cellular inability to repair DNA damage leading to genomic instability and abnormal cell proliferation [4]. In addition, obesity represents a predisposing factor for hormone-dependent cancer in general and breast cancer in particular. Indeed, obesity leads to hyperinsulinaemia, an increase in insulin-like growth factor (IGF-1) and its bioavailability, a reduction in adiponectinaemia and finally hyper-oestradiolaemia linked to excess aromatase activity of the adipose tissue. All of these disturbances are likely to be mutagenic and anti-apoptotic [8]. The decrease in testosterone levels and the increase in oestrogen levels seem to increase the risk of breast cancer. This explains the risk of breast cancer in patients with liver cirrhosis or in those with testicular abnormalities such as cryptorchidism, congenital inguinal hernia, orchitis and orchiectomy [9]. The relative risk of having breast cancer would also be increased in the case of gynecomastia, exposure to ionizing radiation, alcohol consumption or professional activities exposing to high ambient temperatures or carcinogens [4] [10]. However, no risk factors could be identified in our patient. The difficulty of performing oncogenetic tests in our environment could represent a significant bias.

The most frequent reason for consultation found in the literature is the retro-areolar breast nodule [11] [12]. Breast cancer in men could also present as nipple retraction or bloody discharge [13]. Skin manifestations such as changes in the skin in relation to the lesion, and skin ulcerations are increasingly common as well [14]. However, our patient presented with an enlarged mammary gland without palpable nodules nor other associated lesions. This clinical presentation is uncommon.

Mammography and breast ultrasound are the main imaging tools used in cases of suspicion of breast cancer in a man. However, mammography remains the test of choice, making it possible to differentiate between benign and malignant breast abnormalities with a sensitivity of 92% and a specificity of 90% [4]. In men, mammography is more often used as a diagnostic tool to evaluate breast symptoms rather than as a generalized screening tool [4].

Invasive ductal carcinoma is the histological type most frequently found in the literature [1] [15] [16]. Lobular carcinoma is rare in men. This would be mainly due to the absence of terminal lobules in males [17]. Most male breast cancers

express hormone receptors. The predominance of hormone receptors varied between 67.5% and 86% [12] [13]. It has been shown that male breast cancers express more hormone receptors than female breast cancers [13]. In this case, we found the expression of oestrogen and progesterone receptors and an overexpression of HER2. Studies have demonstrated overexpression of HER2 in 5% to 17.5% of human breast cancers, mainly in young subjects [1] [18].

Several therapeutic modalities are found in the literature. Modified total mastectomy with axillary lymph node dissection is the most common modality, especially at early stages [15] [19]. However, lumpectomy is not recommended because it is difficult to have a negative surgical excision margin due to the small volume of male breasts. Thus, if lumpectomy is done there will be a high rate of local recurrence [19]. Adjuvant administration of Tamoxifen is common in the management of male breast cancer [12] [16] [19]. Indeed, due to the strong presence of hormonal receptors in male breast cancer, hormonal therapy is a treatment of choice. Adjuvant radiotherapy is also frequently found, thereby reducing the risk of loco-regional recurrence and prolonging the overall survival of patients [4]. In metastatic forms, hormonal therapy is the treatment of choice but chemotherapy can be administered to patients with negative hormone receptors [9] [13].

The overall 5-year survival of patients varies in the literature from 79.2% to 93% [15] [20]. In their respective studies, Oger and Slimani reported 10-year overall survival rates of 70.8% and 74% [12] [15]. However, the prognosis depends on several clinical, histological and biological parameters such as Union for International Cancer Control (UICC) clinical stage, histological type, lymph node involvement, Scarff Bloom Richardson (SBR) grade, vascular emboli and hormone receptor expression [12].

4. Conclusion

Breast cancer in men is a rare pathology. Its treatment in the Cameroonian context faces numerous difficulties, particularly financial with the high cost of cancer treatment as well as diagnostic and therapeutic means. However, it is essential to systematically rule out breast cancer in any man over the age of 50 years with unilateral gynecomastia.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Elbachiri, M., Fatima, S., Bouchbika, Z., Benchekroun, N., Jouhadi, H., Tawfiq, N., *et al.* (2017) Cancer du sein chez l'homme: À propos de 40 cas et revue de la littérature. *Pan African Medical Journal*, **28**, Article 287. <https://doi.org/10.11604/pamj.2017.28.287.13527>
- [2] Giordano, S.H., Cohen, D.S., Buzdar, A.U., Perkins, G. and Hortobagyi, G.N. (2004) Breast Carcinoma in Men. *Cancer*, **101**, 51-57. <https://doi.org/10.1002/cncr.20312>

- [3] Lee, S. (2023) Cancer du sein chez l'homme. Société canadienne du cancer.
- [4] Taber, J., et al. (2010) Male Breast Cancer: Risk Factors, Diagnosis, and Management (Review). *Oncology Reports*, **24**, 1115-1120.
https://doi.org/10.3892/or_00000962
- [5] Elketroussi, F. and Benrabah, L. (2018) Profil épidémiologique des cancers du sein masculin à Oran, Algérie. *Revue d'Épidémiologie et de Santé Publique*, **66**, S158.
<https://doi.org/10.1016/j.respe.2018.03.106>
- [6] Dabakuyo-Yonli, S., Cottenet, J., Mariet, A.S., Arveux, P. and Quantin, C. (2016) Cancer du sein chez l'homme en France. *Revue d'Épidémiologie et de Santé Publique*, **64**, S26. <https://doi.org/10.1016/j.respe.2016.01.080>
- [7] Weiss, J.R., Moysich, K.B. and Swede, H. (2005) Epidemiology of Male Breast Cancer. *Cancer Epidemiology, Biomarkers & Prevention*, **14**, 20-26.
<https://doi.org/10.1158/1055-9965.20.14.1>
- [8] Schlienger, J.L., Luca, F., Vinzio, S. and Pradignac, A. (2009) Obésité et cancer. *La Revue de Médecine Interne*, **30**, 776-782.
<https://doi.org/10.1016/j.revmed.2009.04.007>
- [9] Fentiman, I.S., Fourquet, A. and Hortobagyi, G.N. (2006) Male Breast Cancer. *The Lancet*, **367**, 595-604. [https://doi.org/10.1016/s0140-6736\(06\)68226-3](https://doi.org/10.1016/s0140-6736(06)68226-3)
- [10] Thomas, D.B., Margarita Jimenez, L., McTieman, A., Rosenblatt, K., Stalsberg, H., Stenhagen, A., et al. (1992) Breast Cancer in Men: Risk Factors with Hormonal Implications. *American Journal of Epidemiology*, **135**, 734-748.
<https://doi.org/10.1093/oxfordjournals.aje.a116360>
- [11] Benchellal, Z., Wagner, A., Harchaoui, Y., Hutten, N. and Body, G. (2002) Cancer du sein chez l'homme: À propos de 19 cas. *Annales de Chirurgie*, **127**, 619-623.
[https://doi.org/10.1016/s0003-3944\(02\)00816-7](https://doi.org/10.1016/s0003-3944(02)00816-7)
- [12] Alaoui Slimani, K., Debbagh, A., Sbitti, Y., Errihani, H. and Ichou, M. (2016) Cancer du sein chez l'homme au Maroc: Épidémiologie et facteurs pronostiques. À propos de 140 cas. *Gynécologie Obstétrique & Fertilité*, **44**, 636-640.
<https://doi.org/10.1016/j.gyobfe.2016.08.009>
- [13] Laabadi, K., Jayi, S., Alaoui, F.F., Bouguern, H., Chaara, H., Melhouf, M.A., et al. (2013) Cancer du sein de l'homme: À propos de 6 cas. *Pan African Medical Journal*, **16**, Article 70. <https://doi.org/10.11604/pamj.2013.16.70.2345>
- [14] Hali, F., Khadir, K., Idhammou, W., Bensardi, F., Lefriyekh, M., Benider, A., et al. (2011) Manifestations cutanées du cancer du sein chez l'homme. *La Presse Médicale*, **40**, e483-e488. <https://doi.org/10.1016/j.lpm.2011.04.010>
- [15] Oger, A.S., Boukerrou, M., Cutuli, B., Campion, L., Rousseau, E., Bussièrès, E., et al. (2015) Le cancer du sein chez l'homme: Approche épidémiologique, diagnostique, et thérapeutique: Étude multicentrique rétrospective à propos de 95 cas. *Gynécologie Obstétrique & Fertilité*, **43**, 290-296. <https://doi.org/10.1016/j.gyobfe.2015.02.010>
- [16] Bohli, M., Tebra Mrad, S., Zrafi, I. and Bouaouina, N. (2017) Cancer du sein chez l'homme: Quelles particularités? *Cancer/ Radiothérapie*, **21**, 701.
<https://doi.org/10.1016/j.canrad.2017.08.049>
- [17] Espié, M. (2020) Le sein, Du Normal Au Pathologique : Etat de L'art. Éditions Eska.
- [18] Muir, D., Kanthan, R. and Kanthan, S.C. (2003) Male versus Female Breast Cancers. *Archives of Pathology & Laboratory Medicine*, **127**, 36-41.
<https://doi.org/10.5858/2003-127-36-mvfb>
- [19] Cutuli, B., Le-Nir, C.C., Serin, D., Kirova, Y., Gaci, Z., Lemanski, C., et al. (2010) Male Breast Cancer. Evolution of Treatment and Prognostic Factors: Analysis of

489 Cases. *Critical Reviews in Oncology/Hematology*, **73**, 246-254.

<https://doi.org/10.1016/j.critrevonc.2009.04.002>

- [20] Fayard, J. (2019) Cancer du sein chez l'homme: Caractéristiques cliniques, radiologiques, histologiques et thérapeutiques chez 60 patients. Université de Paris Diderot, 186p.