

Diagnostic and Screening Mammography among Women 65 Years and Older in Fianarantsoa Madagascar

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Abstract

Introduction: Breast cancer is the most commonly occurring cancer among women. Our aim was to describe the mammography features in a population of 65 years women

Method: A retrospective study has been conducted during a four years period (2015 to 2018), at La vita per Te centre, Fondation Akbaraly Fianarantsoa Madagascar. Women aged 65 years undergoing mammography were included.

Results: A total of 133 women were recruited. Eighty six women were labeled screening mammography were 86 and 47 labeled diagnostic mammography. Mammography findings were mainly normal ACR-BIRADS I (69, 76%), benign ACR-BIRADS II (27, 90%) for screening mammography. Findings were mostly suspicious ACR-BIRADS VI C (25, 53%), and suggestive of malignancy ACR-BIRADS V (21, 27%) for diagnostic mammography. More breast cancer were found in diagnostic mammography compared to screening mammography, ($p = 0,001$)

Conclusion: Progress has been made in screening mammography in women 65 years and older. However, screening campaigns need to be strengthened and broadened to ensure early diagnosis.

Keywords: Breast Cancer; Diagnostic; Screening; Mammography; Elderly

Introduction

Breast cancer is the most commonly occurring cancer among women, with 2 million new cases in 2018 [1]. Mammography is widely used for screening and diagnosis [2]. In Fianarantsoa Madagascar, screening mammography has been implemented in 2014 for women 50 years and older. Age is a known major risk factor for breast cancer [3]. Data available on breast cancer are scarce in Madagascar, especially in older women [4].

Aim of the Study

The aim of this study was to describe finding during screening and diagnostic mammography in 65 years and older.

Materials and Methods

A retrospective study has been conducted during a 4 years period, from 2015 to 2018 at La vita per Te centre, Fondation Akbaraly Fianarantsoa, Madagascar. Women 65 years of age and older undergoing diagnostic or screening mammography were included. Mammography was labeled screening in asymptomatic women and labeled diagnostic in case of complaints related to breast disease. Histological or cytological examination was mandatory for suspicious and highly suggestive of malignancy. Digital mammography was performed using two views: craniocaudal and mediolateral oblique, ACR-BIRADS 2013 (American college of Radiology, Breast Imaging-Reporting And Data System) classification was used for interpretation [5]. Following parameters were analyzed: age, complaints, ACR-BIRADS classification, cytological or histological reports. Statistical analysis was performed using Epi info 7®, Fischer exact test was used to compare 2 proportions. A p value < 0.05 was significant.

Results

Among the 1327 mammography performed, we recruited 133 women (10, 07%). Eighty six women were labeled screening mammography and 47 were labeled diagnostic mammography. Ages ranged from 65 to 88 with a mean age of 68, 46 (+/-4, 05) for the screening and 69, 21 (+/-5, 94) for the diagnosis. Recorded complaints in diagnostic mammography were breast lump (37, 5%), breast mass (20%), pain (20%), nipple discharge (7, 5%), skin retraction (5%), others (10%). Mammography findings (Table 1) in screening mammography were mainly normal ACR-BIRADS I (69, 76%), followed by benign lesions ACR-BIRADS II (27, 90%) which were represented largely by punctate calcification (Figure 1). On the other hand diagnostic mammography were mostly suspicious ACR-BIRADS VI C (25, 53%), represented by irregular solitary mass (Figure 2) and suggestive of malignancy ACR-BIRADS V (21, 27%). Biopsy was performed in 23 women in diagnostic mammography (22 malignant lesions) and in 2 women in screening mammography (all malignant in biopsy or needle aspiration). The positive predictive value (PPV) of mammography in screening was 100% for ACR-BIRADS V lesion, with 2 cases confirmed by histology. In diagnostic mammography the PPV was 100% for ACR-BIRADS V and 10 lesions have been confirmed histologically. Moreover, the PPV was 95% for ACR-BIRADS IV. These lesions included one case of ACR-BIRADS IV A which was benign in histology and 12 cases of ACR-BIRADS IV C which were malignant. The histological type was invasive ductal carcinoma in 100%. Additionally, breast cancer was more frequent in diagnostic mammography than in screening mammography, p = 0. 001 (Table 2).

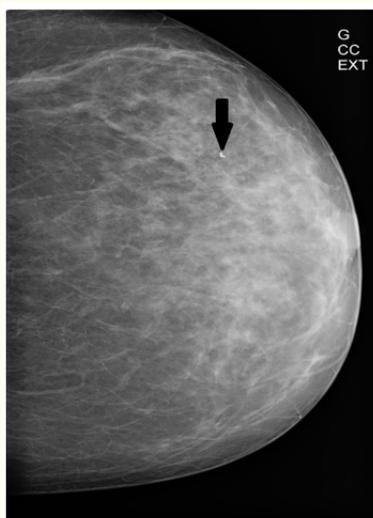


Figure 1: Screening mammography showing a punctate calcification (benign lesion, ACR-BIRADS II).

Mammography	Screening (%)	Diagnostic (%)
ACR-BIRADS I	69,76	25,50
ACR-BIRADS II	27,90	9,14
ACR-BIRADS III	0	6,38
ACR-BIRADS IV A	0	2,12
ACR-BIRADS IV B	0	0
ACR-BIRADS IV C	0	25,53
ACR-BIRADS V	2,32	21,27

Table 1: Mammography Findings, ACR-BIRADS classification.

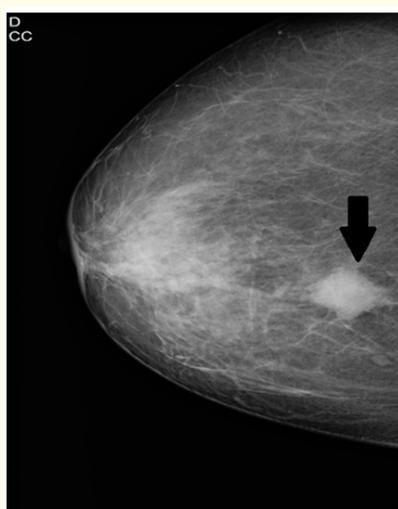


Figure 2: Diagnostic mammography: irregular solitary mass (suspicious lesion, ACR-BIRADS VI C, invasive ductal carcinoma in histology).

Mammography	ACR-BIRADS IV ou V n	Malignant N (%)
Diagnostic	47	22 (95,65%)
Screening	86	2 (2,32%)

Table 2: Malignancy proportion in diagnostic and screening mammography.

Discussion

Despite mammography was used as a screening procedure (86 women) rather than a diagnostic tool (47 women) in women 65 years and older, numerous malignant lesions were seen in the labeled diagnostic mammography. Screening program is not commonly available in low income countries [6,7], cancer screening in this study has been implemented by a non-governmental organization based in the city of Fianarantsoa. Consequently, many lesions are diagnosed at late stage including breast palpable lump (37%) and masses (20%); similar situation has been described in Togo [8] and Cameroon [9]. Hence, death rate is higher in sub-Saharan Africa even the incidence is

slow compared to that in developed countries [10,11]. Although the number of 65 years and older who underwent screening is still low, progress has been made in the management of breast cancer. First, by implementing free screening which allowed to detect cancers, the number of patients who came for the screening was higher than for the diagnostic Mammography. According Sashar, *et al.* [12], this low number of elderly women screened can be explained by their limited life expectancy and the higher rate of co-morbidity. Age definition varies according to study in the United States, elderly concerned women aged 80 years and older instead of 65 years and older in our study [13]. Indeed, in Madagascar the life expectancy was 66 years in 2017 [14]. And the local mean age for breast cancer is 48, 6 years according Rafaramino, *et al* [15]. The high predictive positive value of mammography ($\geq 95\%$ in BIRADS V and 50 to 95% in BIRADS IV c is widely known [5].

Conclusion

Progress has been made in screening, detecting asymptomatic breast cancer in women 65 years and older, even if advanced malignant lesions were seen in diagnostic mammography. Screening campaigns need to be strengthened and broadened to ensure early diagnosis.

Acknowledgement

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Conflict of Interest

We don't have any financial or conflict of interest.

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