

## Case Report

# HIV and the Breast - A Varied and Unique Spectrum of Lesions

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## Abstract

A 37 year old female came with complaint of lump in both the breasts since one month, gradually increasing in size, with right breast lump associated with occasional pain. She had no discharge from the nipple, no skin changes, and no alteration of the nipple areola complex, no history of breathing difficulty or back pain.

**Key words:** HIV; Breast lesion; Fibroadenoma (benign)

## Introduction

Human Immunodeficiency Virus (HIV) infection associated immunodeficiency and the use of antiretroviral therapy may alter the spectrum and frequency of diseases that affect the breast. The differential diagnosis of a breast mass in HIV-infected patients is broad, including unique entities and rare manifestations which can challenge both primary-care providers and specialists. We report a case which manifested itself as a painful breast mass in an HIV-positive female.

## Case Presentation

A 37 year old female came with complaint of lump in both the breasts since one month, gradually increasing in size, with right breast lump associated with occasional pain. She had no discharge from the nipple, no skin changes, and no alteration of the nipple areola complex, no history of breathing difficulty or back pain. Patient was retrovirus positive (HIV) on regular treatment with a CD4 count of 534 cells/mm<sup>3</sup> at admission. On examination the patient had a right breast lump in upper outer and inner quadrant of size 5 cm × 3cm well defined, mobile with no skin changes. There was a lump located in upper outer quadrant of the left breast 4 cm × 2 cm well defined, mobile with no skin changes. Both axillae showed lymph nodes, smooth and regular, in the anterior group. Mammographic evaluation was unremarkable (Figure 1), Ultrasound of bilateral breast was done which revealed BIRADS grade 4/5 lesion in bilateral breast which was homogenous and hyperechoic. FNAC of bilateral breast masses

revealed features suggestive of fibroadenoma (Figure 2). Patient was taken up for excision biopsy of bilateral breast lesions. Circumareolar incision was made and the well defined mass was removed from both breasts. HPE Figure 3 The postoperative period was uneventful.

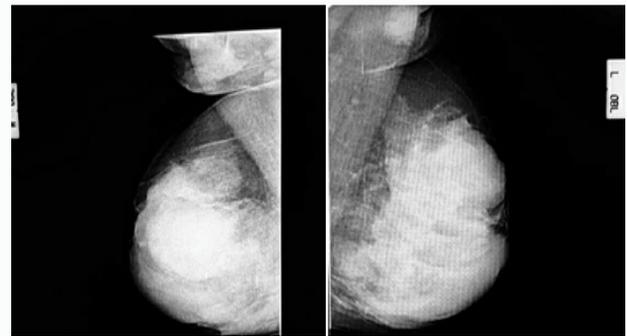


Figure 1: Mammographic evaluation.

## Cytology Report

Procedure: FNAC Bilateral Breast masses.

**Microscopy:**  
Smears from both right and left breast masses show hypercellularity. The cells are arranged in tightly cohesive clusters and in monolayered sheets with numerous bare nuclei in the background of fibromyxoid stroma. No atypical cells seen.

**Impression:**  
FNAC Bilateral Breast masses - YOKOHAMA system for breast FNA Biopsy cytopathology - 2020 - Category II Benign.  
Features of fibroadenoma.  
Advised excision biopsy for confirmation.

Figure 2: Cytology report.

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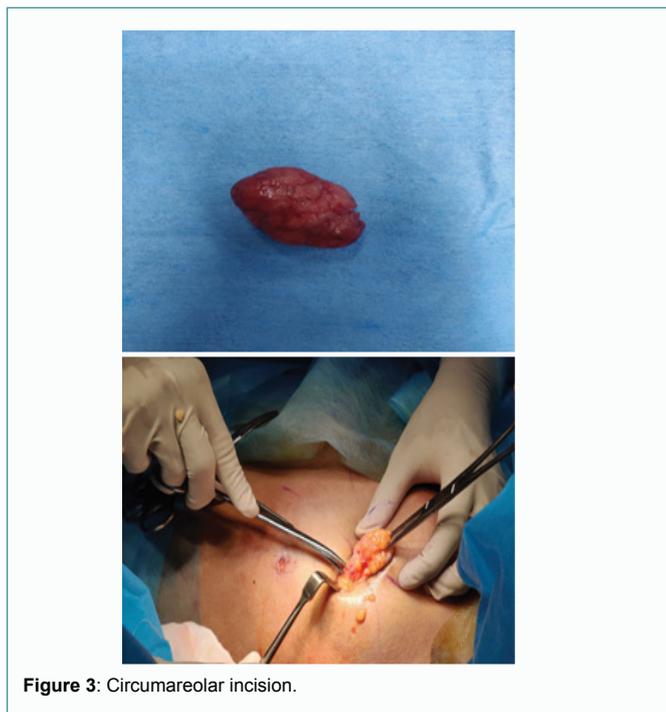
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## Discussion

Breast lumps occur in both women and men and in the background of HIV; they constitute a unique spectrum [1]. The patients can be grouped into three broad categories of benign breast lesions, inflammatory lesions and malignancy [2,3]. A few



**Figure 3:** Circumareolar incision.

studies further stratify these patients based on the CD 4 counts. In women, the benign lesions include fibroadenoma, fibrocystic change, galactocoele, reactive intramammary lymphadenopathy and diffuse breast enlargement. The inflammatory changes [4,5] include breast infections, abscess, mastitis, cutaneous infections involving mammary skin and infections with *Mycobacterium tuberculosis* (including atypical forms). Contrary to opinion, the incidence of carcinoma breast is not higher in patients with HIV, but matches the age and risk adjusted cohorts. However a higher incidence of infection related cancers such as lymphomas, plasmacytoma and Kaposi sarcoma is observed. The breast is also a site for metastases. The higher incidence of carcinoma breast was seen in the pre HAART era.

In men, 80% present with gynecomastia and 40% of these men were on HAART. Breast abscess and lymphomas constitute the remainder. As the CD4+ T-lymphocyte cell count wanes, the differential diagnosis should be broadened to include opportunistic infections caused by *Mycobacterium tuberculosis*, atypical mycobacteria, *Salmonella*, *Propionibacteria*, *Pseudomonas* and fungal organisms in both women and men.

Gynecomastia (breast enlargement due to overgrowth of glands and periductal stroma), which may be unilateral or bilateral and asymmetric, has been increasingly associated with HIV infection, particularly in patients receiving Highly Active Antiretroviral Therapy (HAART). Lamivudine, Nevirapine, Atazanavir and recreational use of marijuana have been significantly associated with gynecomastia [6,7]. Long term exposure to a protease inhibitor is thought to be causative. Lipomastia (breast enlargement secondary to the deposition of adipose tissue), presenting as bilateral breast enlargement or as a solitary mass [8,9], may occur as a component of the fat maldistribution syndrome seen with HAART. Pseudoangiomatic Stromal Hyperplasia (PASH), a benign proliferation of mammary stroma alone, can also be the cause of a breast mass in HIV-infected patients.

Malignancy is an important diagnostic consideration for any

breast mass. The link between HIV and breast cancer remains controversial, and available data indicate that immunodeficiency may not be a critical factor for the development of breast carcinoma [10-15]. The increasing incidence of HIV infection in women and the extended life expectancy of HIV-infected patients in the HAART era may lead to an increased incidence of breast cancer in this population [16-19].

## Conclusion

A wide spectrum of benign and malignant lesions of the breast is seen in HIV patients and knowledge of these is essential to the breast surgeon.

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