

HIV and breast cancer – an observational study of breast cancer mammographic patterns in HIV positive and negative patients.

A. Vanmali, Nelson R. Mandela School of Medicine, University of KwaZulu- Natal, Durban, South Africa; Jackpersad and Partners, Durban, South Africa.

I. Buccimazza, Breast Unit, Department of General Surgery, Nelson R. Mandela School of Medicine, University of KwaZulu-Natal, Durban, South Africa.

Abstract

Background: *Despite extensive research in the field of Human Immune Deficiency Virus /Acquired immune deficiency syndrome (HIV/AIDS), data regarding breast cancer incidence, prognosis, mammographic patterns, histological subtypes as well as the role of screening in this patient population is limited.*

Aim: *To determine if specific mammographic findings, histological features and patient profiles are unique to a cohort of HIV positive patients who develop breast cancer, by comparing these to an HIV negative cohort.*

Materials and methods: *A retrospective chart review and mammographic analysis of newly diagnosed breast cancer patients referred to the Addington Hospital Breast Clinic between August 2008 and June 2012 and entered into a prospective database, was conducted. A comparison of the mammographic features in HIV positive patients to an HIV negative cohort group (91 patients) was performed. Patients without a mammogram or pathology specimen were excluded from the study. The relationship between high-grade ductal carcinoma in situ (HGDCIS) in the pathology specimen, HIV status and the presence of mammographically detected clustered and pleomorphic microcalcifications were assessed. The chi-square test was utilised to assess any statistical value. Institutional approval was obtained from Addington Hospital Management and the University of KwaZulu-Natal Biomedical Research Ethics Committee (REF: BE013/13).*

Results: *Thirty-eight HIV positive patients were included in the study. Nine (23.68%) of the 38 patients with HIV demonstrated multifocal breast cancer (p -value = 0.007) and twelve (31.58%) of the 38 patients with HIV demonstrated multicentric disease (p -value =0.05). In analysing the patterns of micro-calcification, we demonstrated statistical significance (p -value =0.000) between the presence of clustered microcalcification, pleomorphic microcalcification and HIV status.*

We demonstrated statistical significance (p -value =0.016) between the presence of HGDCIS and HIV positive patients and using the same analysis, our data demonstrated a statistically significant relationship (p -value =0.000) between the presences of pleomorphic, clustered micro-calcification with HGDCIS confirmed biopsies and the HIV status of the patient. Using the 2 sample test, our data accepted that there is a relationship of age of presentation of breast cancer and HIV status. Mean age of HIV positive patients was 42.5 years in comparison to the HIV negative group that was 57.6 years. The relationship between age of presentation and HIV status demonstrated a statistical significance (p -value =0.000)

Conclusion: *Our study demonstrated a statistically significant relationship between HIV status, the presence of multifocal breast cancer as well as the presence of mammographically detected clustered and pleomorphic micro-calcification. We further demonstrated a statistically significant relationship between the presence of HGDCIS and HIV status as well as the presence of clustered and pleomorphic micro-calcification in HGDCIS confirmed biopsies in HIV positive patients. A statistically significant relationship of age and HIV status was also demonstrated.*