Abstract

OBJECTIVE: To report the expression of estrogen receptors, progesterone receptors and human epidermal growth factor receptor (Her-2/neu) in 158 Kenyan women with breast cancer and correlation with other prognostic indicators in this high-risk group. This study stressed the importance of routine assessment of the steroid receptors and Her-2/neu as a mode of therapeutic selection of patients for antihormonal or targeting monoclonal antibody (Herceptin) therapy, directed at the juxtamembrane domain of Her-2/neu protein in the developing countries such as Kenya. STUDY DESIGN: The study population consisted of 158 female patients with histologically confirmed breast carcinoma seen at the pathology department of The Nairobi Hospital. An immunohistochemical (IHC) study of ER, PR and Her-2/neu was conducted, followed by fluorescent in situ hybridization (FISH) validation for Her-2/neu gene amplification in cases initially scored as positive 2+ with IHC. Mastectomy samples registered at the pathology department of The Nairobi Hospital were used for this study. The study was approved by the institution's ethical review committee and informed consent obtainedfrom the concerned patients. RESULTS: In the studied cohort, positivity for both hormonal receptors and Her-2/neu was noted in 10 (6.33%) cases and negativity in 44 (27.85%) cases. Conversely, Her-2/neu negativity was noted in 32 (20.25%) cases with both steroid receptors positive and Her-2/neu positivity with both steroid receptors negative in 20 (12.66%) cases. Overall, no predictive factor was found in the Her-2/neu amplified 31/153 (20.26%) cases completely assessed with IHC and FISH. Grade III invasive ductal carcinomas, however, had a high prevalence of Her-2/neu overexpression. Association of both menopausal status ($p = 0.044$) and progesterone receptor status ($p = 0.004$) with high grade tumors were found to be statistically significant at 95% CI ($p < 0.5$). Consistent with other studies, Her-2/neu overexpression in this cohort was 20.26%. CONCLUSION: Her-2/neu positivity may activate ER expression through signaling kinases, and the combined target of mitogenic estrogen plus the monoclonal antibody therapy against Her-2/neu-overexpressing tumors expand chances of survival for patients in developing countries such as Kenya. The cost factor for these tests, selection for appropriate combined therapies and lack of awareness were noted as limiting factors for access to basic health care service and resulted in advanced tumor grade at time of patient presentation.