Impaired Left Ventricular Ejection Fraction and Global Longitudinal Strain in Breast Cancer HER2+ Patients Treated with Doxorubicin, taxanes and Trastuzumab. One year follow up

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BACKGROUND: Chemotherapy with trastuzumab dramatically improved the survival of patients with breast cancer that express the HER2 receptor. Despite this extensive oncological efficiency, Trastuzumab induced cardiotoxicity (TIC) has been identified as a major clinical problem. Global longitudinal strain (GLS) may be useful for detection of early cardiotoxicity before changes in left ventricular ejection fraction can be observed (LVEF). Although TIC is known to be reversible subclinical dysfunction may persist years after the end of the treatment. METHODS: We retrospectively interrogated clinical and echocardiographic data of breast cancer HER2+ patients underwent ACTH therapy at 2 centres from 01/2012 to 12/2012, at baseline, and 3 month time intervals over a maximum follow-up time of 12 months after the end of chemotherapy. Cardiotoxicity was defined as a reduction of >5% from baseline LVEF with symptoms of heart failure or an asymptomatic reduction in LVEF of >10%. RESULTS: There were 15 female patients, mean age 51 years. During the chemotherapy, one patient developed symptomatic cardiotoxicity (6%) that required drug interruption and cardiac medication. Subclinical cardiotoxicity was diagnosed in 5 (33%) patients (LVEF reduced >10% ) with abnormal GLS (median -14,6%). 2 asymptomatic patients (13%) developed abnormalities on GLS (median -15,2%) with normal LVEF. At one year after the end of treatment, 83% of patients with abnormal GLS during chemotherapy kept it impaired. In patients that developed cardiotoxicity symptomatic or not, there was LVEF improvement, however, the LVEF was under the baseline level. CONCLUSION: Although LVEF improve after one year of the end of the chemotherapy, there was no return to baseline pretreatment values, and tissue strain kept altered in most patients. These finds corroborate the recent publications that contest the real reversibility of trastuzumab induced cardiotoxicity. Further prospectives studies regarding the clinical impact on quality of life or risk of future cardiac events should be warranted and may provide a new insight to the prognosis and treatment strategy of TIC.

CHARACTER COUNT :1990