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Omalkhair A Abulkhair, Ahmed Saadeddin, Lobna Sedky, Shabab Al Otaibi, Ahmed Gasmelseed.: **Trastuzumab associated cardiac toxicity: who is at risk in Saudi Arabia? A single institution study.** PAJO 7(2):18-22, June 2014

**Purpose:** there is a growing concern about the long-term effect of trastuzumab induced cardiotoxicity (tic). Therefore, we retrospectively assessed the incidence of tic and heart failure (HF) and tried to identify possible risk factors among a group of Saudi breast cancer (BC) patients.

**Methods:** this retrospective cohort study was conducted to review all HER2 +BC patients treated at KAMC, Riyadh KSA, with trastuzumab in the adjuvant and metastatic settings between 2003 and 2012. Of 150 patients, 104 were eligible with good quality echocardiogram and base line LVEF> 55%. Cardiac function assessment was repeated every 3 months by echocardiogram thereafter.

**Results:** 104 HER2 positive breast cancer patients were eligible for analysis, with median age of 49 years and range (29->78 y). A significant decline in LVEF was observed in 16 patients (15.38%) at a mean exposure period of 15 months. On multivariate analysis a significant difference in LVEF decline was reported between patients diagnosed with hypercholesterolemia (64.71%) compared to (6.8%) in patients with normal cholesterol level (p-value 0.0001) as well as between patient who has been exposed to anthracycline chemotherapy (p v-value 1.0435). Diabetes was a significant risk factor for tic on univariate analysis but this was not confirmed on multivariate analysis.

**Conclusion:** given the limitations of this retrospective review, the results showed significant higher prevalence of tic among HER2 + BC Saudi patients. The study highlighted significant correlation between hyperlipidemia and previous exposure to anthracycline with development of tic constituting a high risk group patients who may need to be closely monitored for cardio toxicity.