breast cancer, early stage

RISK FACTORS OF TRASTUZUMAB INDUCED CARDIOTOXICITY IN HER2-POSITIVE EARLY BREAST CANCER


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Aim: Trastuzumab induced cardiotoxicity (TIC) was defined as the most serious side effect of trastuzumab. In this study, we aimed to define risk factors of adjuvant 9-weeks and 52-weeks trastuzumab therapies of HER2-positive breast cancer.

Methods: Patients who completed 9 or 52-weeks adjuvant trastuzumab in HER2 positive breast cancer were included to the study. A total of 164 patients were included to this study; 108 and 56 patients were treated with 9-weeks and 52-weeks trastuzumab, respectively. The demographic characteristics and echocardiographic measurements of all patients enrolled in the study were recorded. Echocardiographic measurements were made at baseline and every 3 cycles during trastuzumab.

Results: The median follow-up of our study was 32 (10-95) months. Symptomatic heart failure was not observed during trastuzumab treatment in both 9-weeks and 52-weeks trastuzumab groups. Asymptomatic LVEF decline was observed in 19 (11.5%) during trastuzumab. In 7 patients of 52-weeks trastuzumab treatment group, mean LVEF values were decreased below 50% and all of them were treated with heart failure medications. In 52-weeks treatment group 5 patients failed to complete 52-weeks trastuzumab. The mean trastuzumab dose was 49.7 week in 52-weeks arms. According to the risk factor analyses, no association was found between TIC and hypertension (P = 0.54), hyperlipidemia (P = 0.69), diabetes (P = 0.59), obesity (P = 0.79), total anthracycline dose (P = 0.68) and family history of coronary artery disease (P = 0.68). Despite the risk of TIC was increased with advanced age (>50 year) (P = 0.08) and with combination taxane and anthracycline regimens (P = 0.07), this risk was not significant. But the risk of TIC was increase with the longer duration (1.9% and 30.3% in 9-weeks and 52-weeks trastuzumab treatment groups, respectively; P < 0.001).

Conclusions: In our study, no risk factor association was found between hypertension, hyperlipidemia, diabetes, obesity and total anthracycline dose and the risk TIC. But the risk of TIC was increased non-significantly with advanced age (≥ 50 year) and with combination taxane and anthracycline regimens. The main risk factor of TIC was longer duration usage of trastuzumab in our study like trials of longer duration usage of trastuzumab in HERA and PHARE trials.

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