OC-0259
Radiotherapy/chemotherapy-related cardiovascular disease in breast cancer patients: a population-based study
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Purpose/Objective: Several studies have shown that breast cancer treatment may increase the risk of cardiovascular disease after ten or more years. However, most reports are based on older treatment regimens. It is not known whether more contemporary radiation techniques are associated with excess cardiovascular disease. In addition, it is not clear whether current chemotherapeutic regimens, especially regimens containing anthracyclines, increase the risk of cardiovascular disease in breast cancer survivors.

The aim of this study is to assess the effect of radiotherapy and chemotherapy for breast cancer on cardiovascular morbidity and mortality.

Materials and Methods: We have constructed a large population-based cohort of patients diagnosed with invasive breast cancer between 1989 and 2004 (n=93,630). Information on patient characteristics, primary and secondary malignancies, and basic treatment information (e.g. type of surgery, radiotherapy yes/no, chemotherapy yes/no) were provided by the Netherlands Cancer Registry. Detailed treatment information was collected through electronic files from radiotherapy institutes, trials, and regional studies. Data and cause of death were acquired through linkage with the Central Bureau for Genealogy and Statistics Netherlands, respectively, until January 2010. Data on cardiovascular morbidity were acquired through linkage with two registries: the Hospital Discharge Registry (LMR) and the Cardiac Interventions Registry (BHN).

Results: Of the initial 93,630 patients, 69,123 survived at least five years after breast cancer diagnosis. The median follow-up of five-year survivors was 9.7 years (range 5-21 years).

We distinguished four mutually exclusive treatment categories: surgery only (33%), radiotherapy with or without surgery (46%), radiotherapy and chemotherapy with or without surgery (15%), and chemotherapy with or without surgery (5%). 52% of the patients treated with radiotherapy were irradiated for left-sided breast cancer. Due to the anatomical position of the heart, the radiation-dose to the heart is higher during left-sided radiotherapy than during right-sided radiotherapy.

At the PREVENT meeting, results will be presented on the evaluation of mortality rates in comparison with the general population. Secondly, we will present comparisons of cardiovascular mortality rates and incidence of different cardiovascular diseases between the above stated treatment categories, and more specifically by type of chemotherapeutic, radiation field, and laterality.

Conclusions: Based on our results, conclusions will be drawn with respect to the effects of modern radiotherapy and chemotherapy for breast cancer on cardiovascular morbidity and mortality.

OC-0260
Effects of a tocotrienol-enriched formulation in a rat model of local heart irradiation
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Purpose/Objective: Radiation-induced heart disease (RIRD) is a long-term side effect of radiotherapy of intrathoracic and chest wall tumors when radiation fields encompass all or part of the heart. Tocotrienols are forms of vitamin E with potent radioprotective properties. This study investigates the effects of pre-treatment and