Prognostic value of CA27.29 trend during adjuvant chemotherapy and until two years thereafter in patients with primary breast cancer

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Several trials have shown that the use of tumor markers can lead to an early diagnosis of tumor recurrence in breast cancer. While tumor markers are frequently used in routine clinical practice, it is still unclear whether the prognosis of breast cancer patients can be improved by early treatment induction.

Methods

The SUCCESS Trial compares a FEC-Docetaxel (Doc) vs. FEC-Doc-Gemcitabine (Doc-G) regime and two versus five years of treatment with Zoledronate in patients with primary breast cancer (N= or high risk N-). CA27.29 has been measured before and after chemotherapy and at 2 years with the ST AIA-PACK Ca27.29 reagent using MUC-1 for AIA-600II (Tosoh Bioscience, Tessenderlo, Belgium). The course of CA27.29 from pre-chemotherapy baseline to 2 years was evaluated in this analysis.

Results

CA27.29 data is available of 3292 patients before and 2015 patients two years after chemotherapy. 20.2% of patients had increasing ≥ 1 U/ml, 59.7% had decreasing and 20.1% had stable CA27.29 levels from before chemotherapy to two years thereafter. For a difference of ≥ 5 U/ml 6.1% of patients had increasing values, 23.5% had decreasing and 70.4% had stable CA27.29 levels from before chemotherapy to two years. Patients with increasing CA27.29 levels from before chemotherapy to two years after chemotherapy had a significantly worse DFS (HR 1.016; [95%CI 1.011-1.021] for each p < 0.001) than patients with stable or decreasing levels. Between those with stable and decreasing levels there was no significant difference in terms of prognosis [figure Kaplan-Meier DFS]. Patients with an increase ≥ 5 U/ml had an 81% increased risk for recurrence (HR=1.810 (CI: 1.111 – 2.948)).

Conclusions

A small increase of the tumor marker CA27.29 compared to pre-chemotherapy baseline was associated with a worse prognosis. Therefore, changes in tumor marker values compared to baseline in the individual patient could result in a more accurate and clinically relevant interpretation of tumor markers.