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Track 1 - Solid Tumours in the Elderly
Breast cancer in elderly patients

O16

UNFAVOURABLE PREDICTIVE FACTORS IN OLDER WOMEN WITH CLINICALLY FAVOURABLE BREAST CANCER

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Introduction: Forty percent of all breast cancer cases occur among older women (age 65 years and older). This patient group is underrepresented in the currently available studies, which obliges physicians to take treatment decisions based on guidelines and models that are not validated for older patients. With this study we aim to provide insight in predictive factors for recurrence in clinically favourable breast cancer, which can aid in individualizing treatment for older breast cancer patients.

Objectives: To establish a predictive model for recurrence in older breast cancer patients with a small breast tumour and a clinically negative axilla.

Methods: From the Netherlands Cancer Registry, all patients aged 65 years and older with non-metastatic breast cancer, diagnosed between 2003 and 2006, with a tumour with a maximum size of 5 cm, a clinical stage N0, and primary breast surgery, were included in the analyses. First, we defined a set with most important predictors for recurrence based on literature and expert-knowledge, comprising age, T-stage (T1 or T2), histological grade (1 to 3), morphology (ductal, lobular, mixed or other), oestrogen receptor (ER), progesterone receptor (PR), Her2Neu receptor and multifocality. Primary endpoint was 5-year recurrence, a combined measure of locoregional and distant recurrence. To take account for the competing risk of mortality, the predictive value on the primary endpoint was analysed with Fine & Gray analyses. Using backward elimination, predictors without statistically significant predictive value were eliminated stepwise from the model, until a remaining model was constituted with predictors that had a statistically significant predictive value. All models were analysed on discrimination by calculating the Area Under the Curve (AUC) of the ROC-curve. Finally, all analyses were repeated in two age strata (65–74 and ≥75 years), to find out if predictors are the same for each age category. Missing values were filled in using multiple imputation.

Results: Overall, 9183 patients were included in this study. After backward elimination we remained with a predictive model comprising four variables: age, T-stage, grade and ER. This model was able to predict 5-years recurrence with a mean AUC of 0.69 (internal validation after bootstrapping with 1000 replications). This AUC was the same as for the full model. Stratification on age groups yielded the same variables in the model for both strata.

Conclusion: In this national population-based study among older breast cancer patients, we created a predictive model in which age, T-stage, grade and ER can accurately predict 5-years recurrence risk. Interestingly, the potential predictors morphology, Her2, multifocality and PR could be excluded from the model without losing predictive value. This results in a model in which a physician can

predict the risk of recurrence based on a pre-operative biopsy, and take treatment decisions on that basis. Future research should determine the external validity of this prediction model, also taking other factors such as comorbidity into account.

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Track 1 - Solid Tumours in the Elderly
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O17

BREAST CANCER SCREENING IN OLDER WOMEN

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Introduction: In upcoming decades, an increasing proportion of breast cancer patients will be elderly. It has been assumed that diagnosis at an earlier stage through screening programs could improve prognosis. However, elderly may be at risk for over diagnosis due to screening programs, and consequently unnecessarily at risk for possible harmful effects of cancer treatment. In The Netherlands, the upper age limit of the screening program was extended from 69 to 75 years in 1998. However, it remains unclear whether the mass screening program has a beneficial effect in women aged 70 years and older.

Objectives: If a screening program is effective, it can be expected that the incidence of early stage breast cancer increases, while the incidence of advanced stage cancers decreases. According to several studies, this is the most appropriate method to investigate the efficacy of a screening program in population-based data, as studying mortality rates as an indicator for the effect of screening programs can lead to several forms of bias. Therefore, we investigated the effect of the implementation of the screening program on the stage distribution of incident breast cancer in women aged 70–75 years in the Netherlands.

Methods: The Netherlands Cancer Registry was used to include all patients aged 70–75 years who were diagnosed between 1995 and 2011 with invasive or in situ breast cancer. Time trends of incidence rates of different tumor stages were analyzed in linear regression analyses with the incidence rate of both early stage (0, I and II) and advanced stage (III and IV) breast cancer as the outcome, and year of diagnosis as the independent variable.

Results: Overall, we included 25,414 patients aged 70–75 years at diagnosis. The incidence of early stage tumors significantly increased after extension of the upper age limit to 75 years in 1998 (260 cases per 100,000 women in 1995 up to 382 cases per 100,000 women in 2011, p for trend = 0.03), while the number of advanced stage breast cancers did not significantly change (59 cases per 100,000 women in 1995 to 53 cases per 100,000 women in 2011, p for trend = 0.2).

Conclusion: The extension of the upper age limit to 75 years has not led to a decrease of advanced stage breast cancer, while the number of early stage tumors strongly increased. This implies that the effect of screening in elderly women is limited and leads to a large proportion of