investigate whether there is potential correlation between the breast tumour location and the radiation dose to the heart.
Material and methods: All patients that had radiotherapy for breast cancer in Aberdeen Royal Infirmary in 2010 were identified. For Left sided tumours, breast tumour location was established from the notes and imaging. All patients for Radiotherapy were planned on the Eclipse planning system to receive 40Gy in 15 fractions using photons, and any boost dose was delivered with electrons. Radiotherapy planning CT scans were reviewed, the heart was outlined and the cardiac doses were measured. The mean cardiac dose of radiation, the maximum dose and volume of the heart in the radiotherapy field were determined using the eclipse radiotherapy planning system. Statistical analysis was performed using IBM SPSS version 24.
Results: Out of 158 patients, 40 had mastectomies and 118 had breast conservation. Out of the patients that had conservation, 80 had Upper Outer Quadrant (UOQ) tumours, 14 Upper Inner Quadrant (UIQ), 12 Lower Inner Quadrant (LIQ), 11 Lower Outer Quadrant (LOQ) and one had central tumour. The average volume of the heart in the field was 1.19%, with the highest result for LIQ tumours (1.56%) and the Lowest for the LOQ tumours (0.80%). The same was noted with the mean heart dose, with 1.83Gy for LIQ tumours and 1.45Gy for the LOQ. For the maximum heart dose, mastectomy was the highest followed by LIQ tumours and the lowest was for LOQ. The data was analysed using Kruskall-Wallis, the mean volume of the heart and the mean cardiac dose did not reach statistical significance, but the maximum heart dose did.
Conclusions: The benefits of radiotherapy after breast cancer surgery have been well established. The organs at risk, especially the lung and the heart receive radiation, causing side effects, and further technical advances are underway in an attempt to reduce this. For patients undergoing BCS, one would expect the LIQ tumours to receive higher incidental cardiac irradiation in an attempt to treat the tumour bed, which in fact is seen in our cohort though the results didn't reach statistical significance. This study highlights the different potential cardiac doses, in relation to the quadrant of the breast tumour during radiotherapy.
Conflict of interest: No conflict of interest.

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VALIDITY OF THE ONLINE PROGNOSTICATION TOOL "PREDICT" FOR YOUNG JAPANESE BREAST CANCER PATIENTS

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Background: "PREDICT" is increasingly being used as an online prediction tool in clinical practice, even in Japan. Especially for young breast cancer patients, we sometimes need more detailed data on an individual level about how much adjuvant treatment can reduce the patients' mortality so that they can decide whether to undergo adjuvant treatment based on their various background characteristics, such as social activities, role in the family, or desire to maintain fertility. However, the validity of "PREDICT" has not been clarified for young Japanese breast cancer patients.
Material and methods: This was a retrospective review that included breast cancer patients aged under 35 years diagnosed with unilateral stage I-III breast cancer at Tokyo Metropolitan Cancer and Infectious Diseases Center Komagome Hospital between January 2004 and June 2014. The predicted 5-year overall survival of each case was calculated using PREDICT, and its validity was assessed by comparing it with the observed survival.
Results: A total of 57 patients were enrolled, with a median follow-up of 8.9 years (range: 1.0-13.0 years). Overall, 33% of patients were node-positive, and 65% of patients had stage II or III disease. The subtypes of all patients were as follows: 35 cases (60%) were ER-positive/HER2-negative; 8 (14%) were ER-positive/HER2-positive; 7 (13%) were ER-negative/HER2-positive; and 7 (13%) were triple-negative. Forty-eight patients (84%) underwent adjuvant chemotherapy, and 40 of 43 patients (93%) who were hormone receptor-positive underwent adjuvant hormonal treatment. During follow-up, 6 patients (10%) died from breast cancer, of whom 3 (5%) died within 5 years from initial therapy. Two patients had a predicted 5-year survival of under 50%: one died within 2 years from initial therapy, and the other developed distant recurrence within 2 years of initial therapy. For 36 cases who had a predicted 5-year survival of over 90%, the predicted 5-year death rate was 0.4% (1.4 persons), and none died within 5 years. For the other 19 cases with a predicted 5-year survival of 50% to 90%, the predicted 5-year death rate was 14.2% (2.6 persons), and 2 patients (10.5%) died within 5 years of initial therapy.
Conclusion: For young Japanese breast cancer patients, the predicted 5-year survival by "PREDICT" did not deviate from the observed 5-year survival, which suggests that "PREDICT" is a useful tool even in Japanese clinical practice. For young patients whose predicted 5-year survival is under 50%, we need to establish more effective strategies.
Conflict of interest: No conflict of interest.

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SURGICAL TREATMENTS AND SURVIVAL OUTCOMES OF ELDERLY PATIENTS WITH BREAST CANCER -A COMPARISON OF PATIENTS AGED 60-79 YEARS AND OVER 80 YEARS-

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Background: Breast cancer is the most common cancer in women. Global life expectancy has increased. Cancer care in elderly patients is complex. Elderly patients should be managed according to their individual health status and not according to age. We reviewed our local practice and outcomes in elderly patients with breast cancer. The primary aim of this study was to analyze the surgical management and the outcomes in elderly patients. The secondary aim was also to evaluate the biological characteristics of the primary tumor.
Material and Methods: A retrospective study was conducted. In this study, we have included breast cancer patients aged over 60 years, treated at our hospital between2003 and 2015. Data was collected from clinical records. Surgical treatments, survival outcomes and clinicopathological characteristics were compared with patients aged 60-79 years and patients aged over 80 years. Estrogen receptor (ER), progesterone receptor (PR), and Ki67 were assessed by immunohistochemistry (IHC). Positive ER or PR status was defined as the presence of $\geq$1% positive cancer cells. Human epidermal growth factor receptor 2 (HER2) positivity was based on an IHC score of 3+ and/or a fluorescent in situ hybridization-positive result.
Results: A total of 779 breast cancer patients aged over 60 years were included in this study. Of them, 692 (88.8%) were diagnosed at 60-79 years and 87 (11.2%) were over 80 years. Overall survival was significantly shorter in patients aged over 80 years compared to those aged 60-79 years ($p < 0.05$), although there was no difference in relapse-free survival between the two age groups. Tumors in patients aged over 80 years were significantly larger than those in patients aged 60-79 years ($P < 0.05$). Patients aged over 80 years were more likely to undergo total mastectomy than those aged 60-79 years ($P < 0.05$). In addition, patients aged over 80 years were less likely to undergo axillary lymph node dissection than those aged 60-79 years ($P < 0.001$). There were no significant differences in hormone receptor status and HER2 status between the two groups. Patients aged 60-79 years received chemotherapy more often than patients aged over 80 years ($P < 0.001$). There was no difference in the percentage of patients receiving endocrine therapy between the two groups. There were no deaths in relation to surgery.
Conclusions: Although there is no standard of care for elderly patients, advanced age should not be considered a limitation to surgical treatment by itself. Surgical treatment for breast cancer in elderly patients, in our experience, is feasible and safe.
Conflict of interest: No conflict of interest.

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BREAST MRI VS TRADITIONAL TRIPLE ASSESSMENT IN THE PREOPERATIVE ASSESSMENT OF BREAST CANCER PATIENTS. DOES MRI AFFECT CORRECTLY THE DECISION ABOUT THE EXTENT OF THE SURGERY? A STUDY BASED ON THE FINAL HISTOLOGY SPECIMEN

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