O-116. THE ZEBRA STUDY: REVERSIBILITY OF BONE MINERAL DENSITY LOSS IN PRE-/PERIMENOPAUSAL PATIENTS WITH NODE-POSITIVE EARLY BREAST CANCER AFTER TREATMENT WITH ZOLADEX™

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The large (n = 1640), multicentre, randomized ZEBRA (Zoladex™ Early Breast Cancer Research Association) study has previously reported that Zoladex (goserelin; 3.6 mg every 28 days for 2 years) is as effective as cyclophosphamide/methotrexate/5-fluorouracil (CMF; 6 × 28-day cycles) in pre-/perimenopausal patients with oestrogen receptor positive early breast cancer. In a protocolled sub-study, bone mineral density (BMD) of the lumbar spine (L2–L4) and neck of femur were assessed by dual-energy X-ray absorptiometry at baseline then annually for up to 5 years. Patients with a baseline and at least one post-baseline measurement at the same site in a protocolled time window were included in the analysis. In total, 96 selected patients from eight centres (Zoladex, n = 53; CMF, n = 43) were included in the analysis of data to 3 years follow-up. Demographic characteristics were well balanced, as were baseline BMD data. Mean percentage BMD losses for Zoladex and CMF were 8.2 vs 4.5 (p = 0.00008) at 1 year and 10.5 *vs* 6.5 (p = 0.0005) at 2 years for lumbar spine, and 4.5 *vs* 4.4 (p = 0.70) at 1 year and 6.4 *vs* 4.5 (p = 0.04) at 2 years for neck of femur. After 3 years (i.e. 1 year after cessation of Zoladex), based on mean percentage change from baseline, partial recovery of BMD was observed in the Zoladex group, whereas losses persisted in the CMF group overall (lumbar spine: 6.2 with Zoladex [n = 29] *vs* 7.2 with CMF [n = 26], p = 0.26; neck of femur: 3.1 with Zoladex [n = 30] *vs* 4.6 with CMF [n = 26], p = 0.48). As a result, no significant differences in BMD were observed between the two groups at 3 years. All Zoladex patients in the BMD sub-study became amenorrhoeic while receiving treatment compared with 63% of the CMF group at 48 weeks and 69% at 2 years. Menses returned in the majority of Zoladex patients after cessation of therapy, whereas amenorrhoea was permanent in most CMF patients. In the CMF group, based on amenorrhoea status at 48 weeks, mean percentage BMD losses at the lumbar spine were greater for amenorrhoeic than non-amenorrhoeic patients. In summary, ovarian suppression resulting in amenorrhoea was closely related to BMD loss in both groups, with the partial recovery of BMD in the Zoladex group associated with return of ovarian function in the majority of patients. Longer term follow-up, including analysis of data to 5 years follow-up, is planned to determine the degree of potential recovery of BMD with Zoladex and whether there is continuing progressive bone loss with CMF.

O-117. EXPRESSION OF ESTROGEN RECEPTOR β – COMPARISON BETWEEN INVASIVE LOBULAR AND DUCTAL CANCERS OF THE BREAST

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Background: Two estrogen receptors (ER), -α and -β now exist. While it is known that ERα is expressed more frequently in invasive lobular cancer (ILC) than in invasive ductal cancers (IDC), little is known about the expression of the more recently characterised ERβ in ILC. The aim of this study was to compare the protein expression profile of ERβ in ILC and IDC and to correlate this with clinico-pathological features including tumour grade, lymph node status and ERα.

Methods: Immunohistochemical analysis of ERβ was performed on a cohort of 200 invasive breast tumours (110 ductal and 90 lobular). Expression of ERβ within tumour nuclei was compared to adjacent normal breast tissue, which was present in all cases. Results were scored semi-quantitatively by adding the score of the percentage of stained tumour nuclei (0–5) and the intensity of staining (0–3). Tumours with scores of 0–4 were considered as negative while a score of 5–8 was considered positive.

Results: A higher proportion of ILC were ERβ positive (95.5%) as compared to 80% of IDC (P = 0.001, Chi squared test). Loss of expression of ERβ was associated with poorly differentiated (Grade 3) cancers (P = 0.009). A significant correlation was not observed between expression of ERβ and ERα (P = 0.215) and lymph node involvement (P = 0.278).

Discussion: ILC of the breast have distinct clinico-pathological features such as a higher rate of ERα positivity and are more often of a lower Grade (Grade 1/2) as compared to IDC. A higher expression of ERβ in ILC and the correlation of loss of expression of ERβ with high grade tumours suggests that expression of ERβ in breast cancers is a marker of low biological aggressiveness.

O-118. INCIDENCE AND PROGNOSIS IN EARLY-ONSET BREAST CANCER

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The incidence of breast cancer is increasing and disease-specific survival rates are improving in Europe. The aim of this study was to explore if early-onset breast cancer followed the same trends and further to investigate how prognosis could best be assessed. Age-adjusted incidence and death rate for the 5,394 Swedish women diagnosed with breast cancer under the age of 40 1960–96 were explored using data from the Swedish Cancer Registry and Swedish Death Cause Registry. 107 consecutive young patients with invasive breast cancer operated 1980–93 in the Southeast Swedish health care region were retrospectively followed up and their cancers reviewed and graded. The applica-