One major challenge is to understand the biologic basis for the relationship between lifestyle and BC outcomes. Circulating estrogens, insulin and other members of the IGF family of growth factors may play important roles.

Future research should examine prognostic effects of lifestyle interventions using randomized designs. Optimal approaches to weight loss, and types of physical activity most strongly associated with BC outcomes, should also be delineated.

213 Proffered Paper Oral

Factors affecting occupational returning in breast cancer survivors in working age: preliminary analysis from a 131-patient sample

M. Strada[1], M. Frascaroli[1], I. Jedrychowska[1], C. Innaurato[1], A. Bernardo[2], R. Palumbo[2], G. Poggi[2], C. Teragni[2], A. Amatu[2], G. Bernardo[2]. *[1]Fondazione Maugeri, Rehabilitative Oncology, Pavia, Italy; [2]Fondazione Maugeri, Medical Oncology II, Pavia, Italy*

Background: The correlations between survival and returning to work in cancer survivors is an issue of increasing interest, given the actual improvement in treatment strategies, and only a few data are available in the literature. Here we report the preliminary data from an analysis of a sample of 131 patients affected with breast cancer in working age.

Methods: One hundred thirty-one patients with surgically treated breast cancer, all in working age at the time of disease occurrence, were interviewed by a questionnaire including personal data (age at cancer diagnosis, familiarity for cancer, education degree, children, etc.), disease (co-morbidity, sequelae, treatment-related side effects, disease duration, rehabilitative treatment), the type of work (dependent, independent, physical, intellectual, full- or part time, flexibility). Statistical analysis was performed by using ?2 test and univariate/multivariate logistic regression model.

Results: Median age was 45 years (68 patients >45, 63 <45), 9 patients had elementary education, 66 secondary, 24 degree; 26 patients with co-morbidity and 63 with surgical sequelae, 50 referred treatment-related toxicities, 73 had received post-surgical rehabilitation. Working-related factors: independent in 33 patients, public dependent in 50, enterprise dependent in 48; physical work in 54 patients, intellectual in 77; 102 worked full-time and 26 part-time. Overall, 97/131 patients (74%) returned to work (77% dependent, 65% intellectual, 41% reduced duties; 54% flexible hours versus 44% at diagnosis). Thirty-four patients did not go back to work, because of disease/treatment-related sequelae (53%), changed working bent (41%), company policy (6%); 30% of them obtained civil invalidity, 23% old-age pension, 30% disease protraction, 17% remained out of work. The type of work and disease duration (< or >60 days) resulted the only two statistically significant factors; specifically, negative factors for physical work were the loss of technical knowledge and update and the psychological impact, while the flexible hours resulted a stimulating positive factor; no significant effect was found for socio-demographic characteristics, as well as for dependent/independent, full/part time work.

Conclusions: Our preliminary analysis showed a statistically significant impact of both work type and disease duration on working returning in breast cancer patients, but additional aspects of great importance on patient qualify of life are emerging (elaboration of EORTC and FACT-An questionnaires is ongoing).

214 Proffered Paper Oral

Age, clinical and psychological associations with fatigue following radiotherapy for early breast cancer – Results from 2208 women in the UK Standardisation of Breast Radiotherapy Trials (START) on behalf of the START Trial Management Group

J. Mills[1], G. Sumo[1], J. Haviland[1], J.M. Bliss[1], P. Hopwood[2]. *[1]The Institute of Cancer Research, Clinical Trials & Statistics Unit, Sutton, United Kingdom; [2]Christie Hospital NHS Foundation Trust, Psycho-oncology Service, Manchester, United Kingdom*

Background: Fatigue is a frequently reported symptom in women following early breast cancer treatment and may be increased with adjuvant breast radiotherapy. There are conflicting reports on contributing factors and whether fatigue persists in the longer term. The aim of this Quality of Life (QL) sub study is to investigate the effect of a range of other clinical and psychological factors and symptoms on fatigue in women following radiotherapy for early stage breast cancer in the START Trials.

Methods: In the START Trials a subgroup of women were recruited to a QL study and completed standardised questionnaires including the EORTC QLQ C-30, the BR23 and HADS at baseline (after surgery +/−adjuvant systemic therapy but before radiotherapy) and 6, 12, 24 and 60 months. Fatigue was measured as a symptom subscale comprised of 3 individual items. The effect of age, time from surgery, type of surgery, chemotherapy (CT), endocrine therapy and change over time were tested using a GEE model. Associations of fatigue with anxiety, depression, insomnia and physical functioning were estimated using Spearman's rank correlation.

Results: 2208 women consented to the QL study; mean age 56.9 years; 82.9% underwent conservative surgery; 33% had received CT. 2180 (99%) women completed baseline QL. Fatigue levels were highest at baseline (median 33.33) and decreased during follow-up (median 22.2). Feeling tired was the most highly scored individual item with 29% women reporting 'quite a bit'/'very much' at baseline, decreasing to 22% by 1 year and remaining stable to 5 years. The other 2 items showed a similar trend. An early effect of CT on fatigue was seen ($p < 0.001$) but decreased over time. Worse fatigue during follow-up was associated with worse fatigue at baseline ($p < 0.001$), earlier follow-up time ($p < 0.001$) and older age ($p = 0.007$). Worse fatigue scores were moderately to strongly associated with worse depression, anxiety, physical functioning levels and insomnia ($p < 0.001$).

Conclusions: There was no evidence of persistent fatigue after RT although a transient effect due to earlier CT was found. Fatigue improved over time for the majority of women. However, significant associations with older age, mood and physical functioning highlight a subset of patients most at risk of poorer QL that warrant a holistic assessment.

Thursday, 17 April 2008 12:30–14:30

POSTER SESSION

Adjuvant and neo-adjuvant therapy

215 Poster Discussion

The effects of concurrent or sequential administration of trastuzumab on radiation-induced pulmonary fibrosis in rats

C. Umay[1], N.S. Bese[1], S. Serdengecti[2], N. Kepil[3], C. Karaca[4], N. Sut[5], T. Altug[6], A. Ober[1]. *[1]Istanbul University Cerrahpasa Medical School, Department of Radiation Oncology, Istanbul, Turkey; [2]Istanbul University Cerrahpasa Medical School, Department of Medical Oncology, Istanbul, Turkey; [3]Istanbul University Cerrahpasa Medical School, Department of Pathology, Istanbul, Turkey; [4]Istanbul University, Department Experimental Animal Breeding and Research Laboratory, Istanbul, Turkey; [5]Trakya University, Department Biostatistics, Edirne, Turkey; [6]Istanbul University, Department Experimental Animal Breeding and Research Laboratory, Istanbul, Turkey*

Background: There is not enough data regarding the late effects of combination of T with RT. Lung is the most sensitive tissue to observe the late effects of irradiation. In this study we evaluated if concurrent or sequential administration of T has any impact for the development of radiation induced pulmonary fibrosis (RIPF)in rats.

Materials and Methods: 54 female wistar-albino rats were divided into 6 groups (G). The animals in G 1 (concurrent T) had irradiation in two hours of following T administration. G 2 (sequential T-RT) received irradiation, one week after T. G 3 (sequential RT-T) had irradiation first and received T one week after RT. G 4 (T only) had only T. G 5 (RT only) had only irradiation. The rats in G 6 (sham) were only observed. A single dose of 12 Gy was given to both lungs with an anterior field at 2 cm depth after simulation. T dose which was equivalent to 6 mg/kg adult dose was calculated for each rat, and injected by the tail vein. For sequential administration one week interval was given between T and RT which was shown to be the half life of T in rats. Animals were sacrificed 16 weeks after RT which was shown to be a sufficient period for the development of RIPF in rats. Both lungs were fixed by formalin and embedded in paraffin. Five-micrometer thick sections were stained with Masson's trichrome to visualize fibrosis and collagen. As quantative end point the extent of fibrosis for each field was graded on a scale from 0 (normal lung or minimal fibrous thickening of alveolar or bronchial walls) to 4 (total fibrous obliteration of the field). The mean score values were calculated for each group. Normality distribution and linearity were tested, then the One way ANOVA test and Tukey HSD post-hoc test were used to calculate the significance of the differences among groups.

Results: The mean value of fibrosis were 1.44, 1.77, 1.75 and 1.62 for G 1, G 2, G 3 and G 5 respectively, and there were no significant differences among the comparison of these 4 groups ($p > 0.05$). The mean value of fibrosis score was 0.25 for G 4 and 0.33 for G 6. The difference was not significant between these two groups ($p > 0.05$), When the mean value of fibrosis scores of the groups which had thoracic irradiation with or without T, compared with observation arm and the animals which received T only, the differences were statistically significant ($p < 0.05$).