mechanisms. It is important also to be able to classify hypoxia in tumours, t as this is likely to affect response to therapy and we have shown that a specific microRNA regulated by hypoxia, miR-210, is associated with prognosis, strongly associated with tumour hypoxia and provides a ready method to assess hypoxia.

Friday, 26 March 2010 15:30–17:00

CLINICAL SCIENCE SYMPOSIUM

Long term sequelae of breast cancer management

427 Invited

Late sequelae of breast cancer surgery

M. Dixon[1]. [1]*Western General Hospital, Breast Unit, Edinburgh, United Kingdom*

Approximately ¾ of patients who have breast conserving surgery have excellent to good results. Patients who get excellent to good results have less anxiety and depression, better body image, less problems with sexuality and better self esteem. Between 25% and 30% of patients, however, get poor cosmetic results. For these women there are options to achieve symmetry. In the long term patients who have breast conserving surgery when young even if they have an initial good result, report that the treated breast remains the same size or even gets smaller whereas the opposite breast usually increases in size with age.

For long term asymmetry there is the option of reducing the opposite breast or augmenting the treated breast. Options for augmenting the treated breast include local flaps, inserting a breast implant and lipo-filling. A combination of techniques is often needed. With distortion or skin loss, implants alone are unlikely to be effective and local flaps are usually required most commonly an LD flap, although other local flaps or rarely a TRAM flap are an option. If the breast shape is satisfactory but the breast is of smaller volume then one option is to use an implant and/or lipo-filling or to reduce one or both breasts.

We have reviewed 23 patients who had augmentation after breast conserving surgery and radiotherapy performed by a single surgeon. The median weight of excision in this series was 71 grams. The mean age of wide local excision was 42 and the mean age of augmentation was 46. The mean follow up since augmentation was 46 months and six patients had bilateral augmentations. None of the patients were dissatisfied when dressed and none of the patients felt their body was less whole. 27% changed clothes occasionally although 73% hadn't changed their clothes at all. 18% felt a little less attractive, although 82% did not feel at all less attractive. 18% were a little self conscious but 82% were not at all self conscious. The mean score out of ten was happiness with size 8.8, (SD 0.9), happiness with shape 8.6, (SD 1), happiness with the texture of the breast 8.7, (SD 1.3) and overall appearance score was 8.5, (SD 0.9).

The more recent trend is to use lipo-filling to improve long term cosmetic outcomes after breast conserving surgery. Lipo-filling brings in fat which contains mesenchymal stem cells which help rejuvenate irradiated tissue. Results suggest that this is a real option for many patients with asymmetry following previous breast surgery. Debate continues whether new devices which concentrate these stem cells from fat improve cosmetic outcomes compared to less sophisticated centrifuges which separate whole cells from fluid and disrupted cells.

In a few patients who survive many years after mastectomy or breast conserving surgery combined with radiotherapy, do develop radiation ulcers. Although excision and bringing in new tissue has been the main stay of treatment, there is some evidence that in these patients lipo-filling may have a role.

428 Invited

Long term toxicity of radiation therapy

S. Darby[1]. [1]*University of Oxford, Epidemiological Studies Unit, Oxford, United Kingdom*

Each year about a million women worldwide are diagnosed with breast cancer. In the majority of cases, the disease is diagnosed sufficiently early for surgery to be appropriate. For women with node-positive disease who receive mastectomy, and for women with either node-positive or node-negative disease who receive breast-conserving surgery, adjuvant radiotherapy has been shown to decrease the risk of dying from breast cancer [1].

Despite the beneficial effect of radiotherapy on breast cancer mortality, there was in the past little net benefit of radiotherapy on mortality from all causes, as the beneficial effect was largely offset by the risk from radiotherapy. The principal component of this risk was an increased risk of death from cardiovascular disease, although there was also an increased risk from second cancers [1].

In recent years radiotherapy techniques have changed, and in many countries incidental exposure to the heart and other organs is lower now than in the past, and risks may now also be lower [2]. It is, however, likely that many of the regimens that are in use today still carry some risk, although there is little information on the risk associated with any particular regimen. This creates a difficult situation for those planning radiotherapy treatments.

The talk will summarize the evidence that is presently available regarding the risks of cardiovascular disease and second cancer following radiotherapy for breast cancer. The talk will also describe work that is currently underway to enable the risk associated with any particular regimen to be characterized.

References

[1] Early Breast Cancer Trialists' Collaborative Group. Effects of chemotherapy and hormonal therapy for early breast cancer on recurrence and 15-year survival: an overview of the randomised trials. Lancet 2005; 365: 1687–1717.

[2] Darby SC, McGale P, Taylor CW and Peto R. Long-term mortality from heart disease and lung cancer after radiotherapy for early breast cancer: prospective study of about 300 000 women in US SEER cancer registries. Lancet Oncol 2005; 6: 557–65.

430 Proffered paper oral

Cross-sectional study of Quality of Life (QL) 6 years after start of treatment in the UK Taxotere as Adjuvant Chemotherapy Trial (TACT; CRUK01/001)

E. Hall[1], L. Johnson[1], N. Atkins[1], R. Waters[1], P. Barrett-Lee[2], P. Ellis[3], D. Cameron[4], J. Bliss[1], P. Hopwood[1], on behalf of the TACT Trial Management Group. [1]*The Institute of Cancer Research, ICR-CTSU, Sutton, United Kingdom;* [2]*Velindre NHS Trust, Velindre Cancer Centre, Cardiff, United Kingdom;* [3]*Guy's and St Thomas' NHS Trust, Guy's and St Thomas Hospital, London, United Kingdom;* [4]*University of Leeds, St James's University Hospital, London, United Kingdom*

Background: 4162 patients (pts) were randomised to FEC-docetaxel or anthracycline chemotherapy (control). No difference in disease-free survival was observed (Lancet 2009 373:1681), but QL findings at 2yrs prompted further investigation of breast cancer survivorship in a cross-sectional study.

Materials and Methods: At 5.0–7.9 (median 6.1) years after entry into TACT, relapse-free pts were asked to complete EORTC QLQ-C30/BR23 (general/breast QL), FACT-ES (endocrine effects), HADS (anxiety & depression), & report changes in work status & continuing treatment symptoms. Descriptive statistics were used for the 6-year cross-sectional data (between group comparisons will be reported separately); change over time was assessed for pts who had also completed a 2-year prospective QL study in the TACT trial (TACTQL). Associations between change in work status & known side effects/key aspects of QL were assessed.

Results: In participating centres, 1776/2335 (76%) pts responded by October 2009 (median age 49.5 (IQR 43.7–54.8)). Problems most commonly rated quite a bit/v much were loss of libido (38%), joint pain (38%), weight gain (36%), hot flashes (32%) & tiredness (22%). FACT-ES median endocrine symptom subscale score was worse for women aged <50 at trial entry compared to those aged ⩾50 (58 (IQR 49–67) vs. 62 (IQR 54–68) respectively; $p < 0.0001$). Median global health/QL, physical, role & social functioning were high (good). 54% pts still had symptoms/problems they attributed to prior chemo/endocrine therapy.

Of 1066 pts aged <60 at 6yrs who were employed at baseline, 17% had left employment; in ⩾60s this figure was 62%. In both age groups there was an association between leaving employment & higher levels of fatigue, pain, endocrine symptoms, anxiety & depression, & lower levels of physical, role & social functioning & global health/quality of life (<60yrs: all $p < 0.0001$; ⩾60yrs: $p < 0.05$ except anxiety $p = 0.06$).

20% (361) pts were TACTQL participants. Although median symptom & functional subscale scores were similar at 0 & 6 years, memory worsened for 32% & improved for 11% pts; for tiredness, 21% were worse & 26% better. Anxiety ratings improved for 28% & worsened for 11%; depression ratings improved for 5% & worsened for 9%.

Conclusions: Moderate/severe endocrine symptoms affect a significant minority of women at 6yrs. Despite good global QL, there is an association between leaving employment & patient reported late treatment effects.