Results: Subjective palliative effect was obtained in 33/42 evaluable eyes for a 76% of cumulative (partial or complete) response. The most frequent acute side effects was conjunctivitis (12 patients). As late side effects, 2 cases of cataract were observed.

Conclusions: In our experience external beam radiation therapy provides useful palliative treatment for ocular metastases from breast cancer.

271 POSTER

Nine years results of breast carcinoma conservative treatment for 295 pTI $\leq$ 10 mm N– without adjuvant medical treatment

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From January 1984 to December 1988, 1163 patients with breast conservative treatment (surgery + radiotherapy) without adjuvant medical treatment were entered into F.N.C.L.C.C. prospective multicenter study. Among these 1163 patients, 295 had an histologic tumor size ≤10 mm. With a median follow up of 9 years, 9.5% (28 cases) developed a local recurrence (LR). In univariate analysis, histologic grade: GI (13 LR/145: 9%) versus GII + III (8 LR/93: 8.6%), ductal carcinoma in situ: DCIS + (8 LR/88: 9%) versus DCIS – (20 LR/200: 10%) and progesterone receptor PR + (12 LR/145: 8.2%) versus PR – (5 LR/60: 8.3%) did not influence local control.

Two factors were statistically significant:

– Age: < 40 years (9 LR/40: 22%) versus > 40 years (19 LR/255: 7.4 ($p < 0.0001$).

– Estrogen receptor: ER – (7 LR/55: 12%) versus ER + (10 LR/152: 6.5%) ($p < 0.001$).

In multivariate analysis, age ≤ 40 years remained the only significant parameter ($p < 0.0002$).

Conclusion: With a median follow up of 9 years, this study show that local recurrence for pTI ≤ 10 mm N– without adjuvant medical treatment are not infrequent (9.5%) with only one significant risk factor: age ≤ 40 years (LR: 22%).

272 POSTER

Is it necessary to check blood counts routinely during definitive radiation therapy for patients with early stage breast cancer?

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Purpose: In some departments of radiation oncology blood count checks are done routinely for patients treated with breast conserving therapy followed by definitive radiation therapy. Due to rising costs of treatment we retrospectively analyzed these patients in to evaluate the need of this routine practice.

Methods: From May, 1995 until December, 1997, 51 patients with early stage breast cancer received definitive irradiation after breast conserving therapy. Cytotoxic chemotherapy was used in none of these patients. 59% were treated with tangents atone, 29% with tangents and sternal and supraclavicular fields, 6% with tangents and sternal, supraclavicular and axillary fields and 6% with tangents and a sternal field. Complete blood counts were done weekly.

Results: During radiotherapy, a significant decrease of haemoglobine, erythrocytes, thrombocytes, and leucocytes was seen ($p < 0.05$, Friedman's test). 98% presented anaemia with grade 0 (RTOG/EORTC score), 2% with grade 1. 100% showed thrombocytopenia grade 0. Leucocytopenia grade 0 was observed in 51%, grade 1 in 35%, grade 2 in 12% and grade 3 in 2%. All patients (6% (3/15)) who developed leucocytopenia in the range of 1.8 Gpt/l–2.3 Gpt/l were treated with parasternal portals ($p < 0.05$, χ^2-test). Interventions with G-CSF were prompted.

Conclusion: Due to the small number of patients examined so far, our preliminary results should be cautiously valued. However routine checks of complete blood count should be done even for patients not receiving chemotherapy. Especially patients treated with sternal portals might have a higher risk to develop abnormal values. One reason could be the affection of stem cells in bone marrow of the sternum by irradiation and/or of peripheral blood cells in the great vessels and the heart.

273 POSTER

Evaluation of acute local toxicity after postoperative 60 gy to the whole breast in multifocal invasive or in situ ductal breast carcinoma

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Purpose: Multifocality of infiltrating ductal carcinoma (IDC) or presence of in situ form (DCIS), treated with conservative surgery, induced the use of postoperative RT to the whole breast to a total dose of 60 Gy (2 Gy/fract) due to the lack of a precise little volume for booster dose.

Methods: From 2/4/1992 to 1/9/1997 we treated 91 female patients (pts). Depending on histopatology, we divided the pts into 4 groups: pure DCIS (20 pts), DCIS associated with microinfiltrative (mic) ductal carcinoma (9 pts), IDC associated with intraductal component >25% (EIC) (50 pts), multifocal IDC (12 pts). RT on the breast consisted of 2 tangential isocentric fields of 6 MV X photons, the treatments were studied according to the ICRU level 2. Acute and late local toxicities were evaluated according to the EORTC-RTOG scales.

Results: All the pts were evaluable for acute local toxicity: grade 0:18 pts, grade 1:44 pts, grade 2:12 pts, grade 3:20 pts. We evaluated for late toxicity 77 pts (with at least 6 months FU): grade 0:64 pts, grade 1:10 pts, grade 2:3 pts. We registered only 1 local relapse after 7 months from the end of RT and the pts was submitted to simple mastectomy. From september 1997 we modified our schedule of RT giving 50 Gy to the whole breast followed or not, in case of DCIS, by booster dose to the surgical bed, according to the recent literature data.

274 POSTER

Long-term (5–10 year) results of combined treatment of breast cancer patients using gamma-neutron therapy

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Purpose: The study conducted will allow to assess the efficiency of mixed gamma-neutron therapy of locally advanced breast tumors.

Methods: Combined treatment using gamma-neutron therapy was given to 85 patients with stage T1-4N1-3 breast carcinoma. In 24 patients (28.2%) primary infiltrative-edematous tumors were diagnosed. The control group consisted of 100 patients treated using conventional external beam radiation therapy. Total tumor dose was 50 Gy from gamma-component and 2 Gy from fast reactor neutrons (RBE = 5). At the second stage after a 2-week break surgery was performed to 87.8% of patients.

Results: Complete regression of primary tumors was achieved in 22% of patients compared to 7.7% in the control group. The pattern and the rate of early and late radiation complications in the groups were similar. For T3-4N1-3 tumors the overall 5-year survival was 71.8 + 12.1%, compared to 40.1 + 3.8% in the control group. The overall 10-year survival for T3-4N3 tumors was 22.7 + 6.7%. In the control group all the patients died before 10 years.

Conclusion: Thus, mixed gamma-neutron therapy significantly improves short-term and long-term treatment results for patients with locally advanced breast cancer.

275 POSTER

Is the timing of radiotherapy after breast conservation surgery for early stage cancer important?

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Purpose: The appropriate timing of breast irradiation [BI] following breast conservation surgery [BCS] for early stage cancer remains controversial. Our objective was to examine the temporal relationship of BI and outcome of women after BCS for early stage cancer.

Methods: The times between BCS and the initiation of BI were retrospectively reviewed in 47 patients treated during a 15-year period [1981–1995] for stage I–II breast cancer. BI commenced within [n = 20] or after [n = 27] an interval of four months. Twenty-one patients received chemotherapy before BI. The median follow-up was 47 months [range: 13–122 months].

Results: The local recurrence rate was 5 ± 10% [95% CI] (1/20) in women irradiated within four months and 15 ± 14% (4/27) in patients treated after