

## POSTER PRESENTATIONS

**PP-3-9 Acute Toxicities of Concurrent Chemotherapy (CT) & Reduced-Dose Radiotherapy (RT) for Patients Treated with Breast-Conserving Surgery**

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Concurrent administration of CT is known to enhance the toxicity of RT, but the magnitude of this effect is uncertain. From 5/92–10/94, 109 evaluable pts were treated with full-dose oral CMF (6 cycles given every 28 days) & RT (tangents only, 39.6 Gy in 22 fractions; boost, 16 Gy in 8 fractions; RT began on d.15) without planned interruptions. 50% of pts developed moist desquamation (MD) during or shortly after RT. (For comparison, MD occurred in 8% of pts in a prior study of sequential CT-RT.) However, only 5 pts required RT treatment breaks (2–15 days). Grade 4 neutropenia developed during RT in 5 pts, but only 1 pt was hospitalized for fever. 5 other pts received antibiotics during or shortly after RT for skin or wound problems. Only 1 pt developed clinical radiation pneumonitis (Grade 2).

Thus, giving concurrent full-dose oral CMF & reduced-dose tangential-field RT regimen resulted in a high rate of MD but few serious acute toxicities. Data on long-term outcome are required before this regimen can be used outside a protocol setting.

**PP-3-10 Patients Experience with Immediate Breast Reconstruction**

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**Objective:** To evaluate patients' reactions after completed immediate reconstruction for breast cancer.

**Design:** A semi structured interview with 20 women.

**Results: Preoperative information:** 2/19 patients felt that the surgeon alone took the decision, 5/19 were unsatisfied with the preoperative information given and 12/19 were mostly satisfied.

**Early postoperative period (< 3 months):** 15/20 patients felt some kind of anxiety and/or need of additional psychological support. Only 3 patients felt the need of psychiatric expertise whereas the remaining 12 felt that the regular staff could have acted more empathetically.

**Late postoperative period (3–12 months):** The overall satisfaction with the reconstructive procedure was high and 19/20 patients were generally satisfied with the procedure.

**Conclusions:** The importance of appropriate information cannot be sufficiently stressed. It is however as important to emphasize the need for psychological support given by an empathetic medical staff.

A specially trained nurse is now responsible for our patients, a written brochure has been made, support patients are available and a video showing patients' experiences has been produced.

**PP-3-11 Intra Operative Iridium versus External Beam Boost in Breast Conservation; Boost Volumes and Local Control**

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**Introduction:** To evaluate our method of intra operative Iridium boost (IB) in relation to external beam boost (EBB), all 280 patients treated with breast conserving therapy (BCT) from January 1987 through July 1995 were analyzed with emphasis on boost treatment volume and local control.

**Patients and methods:** BCT consisted of tumour excision, axillary clearance, 50 Gy whole breast irradiation and a boost of 15 Gy. External beam boost (EBB) was used in 100 patients. Iridium boost (IB) in 180, intra operatively in 77%. Poor prognostic signs were slightly more common in the IB group (age < 40: 17% vs 11%; pN<sup>+</sup> 27% vs 21%; Incomplete excision: 10% vs 4%; EIC+: 24% vs 18%; Vessel Invasion: 12% vs 6%). Mean boost treatment volume was 57 cm<sup>3</sup> (range 17–101 cm<sup>3</sup>) for IB and 177 cm<sup>3</sup> (range 45–715 cm<sup>3</sup>) for EBB.

**Results:** With a median follow up of 36 months, preliminary analysis showed six local recurrences (3.3%) in the Iridium group and eight (8.0%) in the external beam boost group. Taking into account only true recurrences

or marginal misses the above mentioned figures would be: 1.6% in the IB group and 6.0% in the EBB group.

**Discussion:** These preliminary results suggest that boost treatment with Iridium provides at least similar local control with much smaller boost treatment volumes, and despite the uneven distribution of known prognostic factors.

**PP-3-12 Angiosarcomas of the Breast after Radiation for Carcinoma: 3 New Cases from Institut G Roussy**

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Lately several cases of angiosarcoma of the breast have been reported with patients who had had a conservative treatment including radiation therapy for breast carcinoma. They raise the question whether radiation therapy may "induce" angiosarcoma in the irradiated breast. Since 1988 angiosarcoma of the breast has been diagnosed at Institut G Roussy in 3 patients who had undergone conservative surgery and radiation (45 Gy, with a boost of 15 Gy to the tumor bed) for carcinoma of the same breast 6.5 years, 4.5 years and 4 years before their angiosarcoma. By the French Cancer Centers' grading system, grade was III in 2 tumors, I in 1 tumor. Two patients died 14 and 19 months after a total mastectomy. The 3rd one has no evidence of disease 16 months after the diagnosis. From the 32 case histories available for study in the world literature angiosarcomas arising in a breast treated by radiation appear to evolve in a similar way to those arising in a till then healthy breast. To establish a causal relationship with radiation at least 20 well documented cases need to be compared to an estimated 200 tightly matched control patients treated by radiation after breast carcinoma, but with no evidence of angiosarcoma after a comparable follow-up time.

**PP-3-13 Lymphoedema after Primary Treatment for Breast Cancer in Elderly Women**

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Lymphoedema of the upper limb and impaired mobility of the shoulder are complications well known after treatment of breast cancer. These complications have been associated with the extent of surgery and postoperative radiotherapy (RT). The incidence of lymphoedema and impaired mobility was assessed in patients 70 years of age or more operated for breast cancer during 1992–94. The volume and the mobility of each arm were measured in 55 consecutive women. The measurements were made preoperatively and after one and two years of follow-up. 46 patients were eligible for follow-up. 30 patients were operated with modified radical mastectomy (MRM) according to Patey. 9 of these patients were given adjuvant RT to the chest wall and regional lymph nodes. 16 patients were operated with wide local excision and axillary clearance (BCT). 10 of these patients were given adjuvant RT to the remaining breast tissue.

**Results:** 10 patients are considered to have lymphoedema and 18 impaired mobility of the shoulder. 6/9 patients operated with MRM and given adjuvant RT develop lymphoedema and 8/9 impaired mobility of the shoulder whereas of the remaining patients not given RT only 1/21 develops lymphoedema and 6/21 impaired mobility. 2/10 patients operated with BCT and given adjuvant RT develop lymphoedema and 4 impaired mobility of the shoulder. Of the remaining patients not given RT to the breast 1/6 develop lymphoedema and none impaired mobility.

**Conclusion:** A significant difference in the incidence of lymphoedema and impaired mobility of the shoulder is demonstrated in patients given postoperative RT in any form compared with those having no RT. A very high incidence of lymphoedema is observed in patients operated with MRM and given adjuvant RT (67%), but also after treatment with BCT and postoperative RT to the breast the incidence of lymphoedema is not negligible (20%).

**PP-3-14 Local Recurrences (LR) after Radiosurgical Breast Conservative Treatment (BCT): Frequence, Risk Factors and Outcome**

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**Material:** From January 1980 to December 1988, 652 women were treated by BCT for a T0T1T2 ≤ 4 cm tumor. The median age was 51 years. According to TNM classification, we observed: T0: 14.3%, T1: 43%. T2: 35.4%, Tx: 7.3%.

**PP-3-19 Axil 95**

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AXIL 95 trial is a multicentric randomized phase III study, which describes the role of axillary node dissection among  $\geq 50$  years and menopausal women with localized breast cancer of under  $\leq 10$  mm.

The question is: is it possible to avoid axillary node dissection without impairing survival during the first treatment of small diameter breast cancer among menopausal women?

The treatment consists of phase III study comparing 2 approaches:

- Arm A: standard treatment of infiltrating breast tumors (tumorectomy + axillary node dissection + radiotherapy  $\pm$  medical adjuvant treatment according to histopronostic factors and local strategies).
- Arm B: same locoregional treatment but without axillary node dissection. They systematically receive adjuvant hormonotherapy with Tamoxifen (20 mg per day over 3 years).

The evaluating criteria are: 1) overall survival; 2) number of axillary nodal relapses; 3) functional evaluation.

Statistical study: because of the small number of cancer related events in these patients, a population of 1612 patients are required (806 per arm) in order to assess the equivalence of both approaches, with a power of 90% and an error risk (type 1) of under 10%.

Trial starting on 1st October 1995.

Organizing center: Institut Bergoni , Bordeaux. Fax: 56 33 33 30 (A Avril, MD, L Mauriac, MD, F Bonichon, MD).

**PP-3-20 Local Excision with a 10 mm Margin as Sole Treatment for Ductal Carcinoma in Situ (DCIS) of the Breast**

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It has been suggested that radiotherapy to the breast is necessary to reduce the risk of local recurrence after excision of DCIS (NSABP B-17 Trial). In this study patients with localised DCIS ( $\leq 4$  cm) underwent wide local excision. A complete cylinder of tissue was excised from directly beneath the skin down to pectoral fascia aiming surgically for a 1–2 cm circumferential margin. The circumferential margins were examined histologically to ensure at least a 10 mm margin of normal breast tissue from the tumour edges. Between 1988 and 1993, 59 of the 136 patients undergoing surgical treatment for DCIS at this unit were suitable for and chose wide local excision. In 18 of these patients the required excision margin was not achieved at the first operation and further surgery was advised. Subsequently, 11 patients underwent conversion to mastectomy, while in 7 the margins were re-excised to ensure the required 10 mm margin. The 48 patients with complete local excision did not receive post-operative radiotherapy. At a median follow up of 58 months, 3 (6%) of the 48 patients have developed a local recurrence in the treated breast. Although follow up in this study is still relatively short, the results compare favourably with the published results of the NSABP B-17 Trial, where at 43 months the local recurrence rates were 16.4% and 7% in the 'no radiotherapy' and 'radiotherapy' arms respectively. The results of this study suggest that if adequate excision of DCIS is ensured radiotherapy may be unnecessary.

**PP-3-21 Loco-Regional Recurrences After Mastectomy in Breast Cancer**

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Potential risk factors including flow cytometric derived parameters predicting loco-regional recurrence (LRR) in early breast cancer were investigated. This study included 608 patients treated by modified radical mastectomy between 1982 and 1987. Recommendations regarding local treatment as well as adjuvant systemic therapy did not change during this period. Patients treated by adjuvant chemotherapy were randomized to receive additional hormonal (MPA) treatment. Only 59 (10%) patients received postoperative irradiation (XRT) to the chest wall and/or axillary lymph nodes; another 121 (20%) patients received XRT to the intermammary nodes because of centro-medially located tumours.

The rate of LRR after a median period of 7.5 years was 15% ( $n = 93$ ), either with ( $n = 30$ ) or without ( $n = 63$ ) concurrent distant metastases. The chest wall, regional lymph nodes or both were involved in 41 (44%), 38 (41%) and 12 (13%) patients respectively. At 10 years the estimated

overall survival, disease free survival, distant metastasis free survival and loco-regional free survival was 55%, 50%, 57% and 80% respectively. Cox analysis revealed 4 factors associated with LRR: age ( $p = 0.04$ ), pT ( $p = 0.04$ ), nodal status ( $p < 0.01$ ) and pathology ( $p = 0.04$ ). Extracapsular tumour extension and a positive axillary node at the highest level, DNA ploidy and S-phase fraction, did not contribute to the risk independently. In univariate analysis no difference was found whether or not MPA was given.

**PP-3-22 Hypofractionated Radiotherapy of Breast Cancer in Elderly**

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The breast cancer is the most frequent cancer in elderly patients (over 65 years), because more women have real chance to live much longer and experience very old age. Chemotherapy and radical surgery are often contraindicated because these patients are considered to be more vulnerable due to presence of so called "concurrent" disease (cardiology, respiratory etc.). In one year period at the Institute of oncology and radiology in Belgrade two groups of elderly breast cancer patients were treated. Group A (48 pts.) were treated with concentrated radiotherapy (hypofractionation with split course) TD: 24–26 Gy on breast and 19 Gy on lymphatics, in 8 days (60-Co). The same treatment was repeated after 28 days rest period. 40 patients (group B) were treated with conventional radiotherapy in that period with TD 60 Gy and 20 Gy boost (breast) and 45 Gy lymphatics (with 15 Gy boost dose to the axilla). There were no statistical difference between these two groups (age, clinical stage, type of surgery, patohistology). For group A median follow up was 30 months and for group B 26 months. The relapse incidence for group A was 35% with median relapse free interval 11.3 months and for group B 50% with relapse free interval of 16.2 months. There was no significant statistical difference between two group according to standard statistical methods (Hi quadrate test = 7.72 DF = 4  $p > 0.05$ ). The consensus about treatment of the breast cancer in elderly women is still not clearly established. Our data suggests that radical radiotherapy (– hypofractionated schedule) is an effective and suitable therapeutic approach in the management of breast cancer in elderly women.

**PP-3-23 Risk Factors of Local Recurrence after Breast Conserving Therapy**

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Since the beginning of the 1980's 1482 stage I and II breast carcinomas were treated with breast conserving therapy. Within this group 99 local recurrences (LR) occurred, with a 5-year local recurrence rate (LRR) of 8%, and a ten-year LRR of 12%. We were able to collect tumor samples of 71 cases with LR, matched each with two controls without LR but similar in follow-up time, menopausal and lymphnode status. The tumors of these 213 patients were histologically reviewed. In addition using immunohistochemistry expression of the following proteins were studied: estrogen and progesteron expression, neu/c-erbB2, Ki-67, cyclin D1, p53, E-cadherin, bcl-2, CD31, EGF receptor. The importance of these factors in relation with LR will be discussed.