Conclusion: Compressive wound dressing is complicated with more seromas in need of puncture, but on the other hand this treatment was favorable compared to drainage concerning use of analgetics, and they could leave the hospital earlier. We are now preparing a new randomized study with one group treated with compressive dressing combined with drainage for 24 hours.

PP-2-29 Axillary Dissection for Breast Cancer: Long-Term Functional Results

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Aim of the study: Evaluation of the long-term functional results after treatment of breast cancer including an axillary dissection (AD).

Patients and methods: Among patients (pts) treated for a breast cancer in the Institute Bergonié, 111 pts (with a minimum and median follow-up after AD of 3 and 6.5 years respectively) were studied on the occasion of a regular follow-up, from 12-1995 to 03-1996. A modified radical mastectomy had been performed in 29.7%, and a conservation treatment in 70.3% of the pts. The median tumor size had been 18.5 mm, a median number of 14 nodes had been removed, and a histological nodal involvement had been observed in 47.7% of the pts. Characteristics of the pts, of the tumors, and of the treatments will be detailed. The functional evaluation was obtained by a medical history, a functional inquiry, and a complete physical examination.

Results: Pain in shoulder and arm, weakness in the arm, impaired shoulder function were observed in 31%, 30%, 13%, of the pts respectively. Serious or moderate lymphoedema occurred in 10% and 9% of the pts respectively. A high frequency of late symptoms was significantly correlated to the number of removed nodes, to the number of involved nodes, and to the irradiation of the scar. As concern the breast conservation, no difference was observed.

Conclusion: For pts with breast cancer whose treatment includes an AD, the incidence of moderate or serious adverse side-effects remains high. Further studies, preferably randomized, should be planned in order to evaluate the absence of AD in some selected cases.

PP-3. Local treatment (September 11)

ORAL PRESENTATIONS

PP-3-1 Ductal Carcinoma in Situ (DCIS) of the Breast: About 706 Cases Examined from 1971 to 1995

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DCIS of the breast is occurring with an increasing frequency mostly because of a large use of mammography screening. A better knowledge of this type of breast cancer has led the traditional role of mastectomy for DCIS to be challenge by breast conservative procedures.

The aim of this study is to analyse both diagnosis and treatment procedures used for patients suffering from DCIS who attended our Institute from 1971 to 1995. Patients were included in the study on the basis of histological diagnosis of DCIS. Computerized patient files were retrospectively analyzed allowing to collect patients characteristics, circumstances of diagnosis, mammographic findings and treatment procedures. After treatment, follow up data including clinical examination and mammography were yearly reported for all patients.

706 patients aged 19 to 88 (mean 51.3) were included in the study; 281 (39.8%) of them were postmenopausal women. Circumstances of diagnosis were clinical findings (i.e tumor, Paget's disease or galactorrhea) (43.3%), mammographic abnormalities (50.2%) or occasional discovery (6.5%). Positive mammographic findings were obtained in 87% of patients and mainly represented by microcalcifications (79.4%). Treatment procedures were breast conserving surgery (BCS) alone (37.5%), BCS followed by radiation (25.5%) or mastectomy (37%). The actuarial local recurrence was 7.55% after 77.5 months of follow up.

PP-3-2 Ductal Carcinoma in Situ: Radiosurgical Conservative Treatment in 122 Cases. Analysis of Local Recurrence Factors

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Material: From January 1980 to July 1992, 122 consecutive cases of DCIS underwent conservative surgery in three major hospitals of Strasbourg area. All received complementary irradiation in the Paul Strauss Centre. The median age was 51 years. 69 women were menopausal. According to TNM classification, we found 88 T0, 11 T2, 20 T1, 3 Tx.

Treatment: 21 quadrantectomies and 101 lumpectomies were performed, with axillary dissection in 67 cases. All women received whole breast irradiation by cobalt photons at 46–54 Gy with a scar boost by electrons at 8–12 Gy. 46 women received Tamoxifen.

Histology: DCIS was pure in 106 cases, and with associated LCIS in 16 cases. The excision was complete in 109 cases and doubtful or incomplete in 13. Nuclear grading, analyzed in 84 cases, showed: 9 G1, 42 G2, 23 G3 and 10 G4.

Results: With a median follow-up of 65 months, we observe 10 (8.2%) local recurrences (LR), all in or near the previous tumor bed, with a mean delay of 46 months after initial surgery. Four LR were still DCIS, but 6 were invasive. The salvage treatment consisted of a mastectomy for all the 10 LR. One woman, still alive, developed metastasis. Two women died from other cancers. The only significant risk factors of LR, in multiple regression analysis, are the large histologic size ($p = 0.02$) and small breast size ($p = 0.03$). A tendency to significance was noted for incomplete resection, high nuclear grading and total tumor dose less than 60 Gy.

PP-3-3 Is Axillary Node Dissection (A.N.D.) Useful for Microinfiltrative Breast Carcinoma (MIBC)?

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From 1970 to 1995, 5626 patients (pts) with operable non metastatic breast carcinoma underwent initial surgery at Institut Bergonie. MIBC represented 268 cases (4.7%). Tumors were non palpable (TO) in 53% (142/268), palpable in 126/268 with a median size of 3 cm. Among the 268 patients, 11.6% (31/268) did not have A.N.D.; 237 pts (88.4%) had A.N.D. with mastectomy in 194/237 pts (81.8%) or conservative surgery in 43/237 pts (18%). After nodes analysis, 90% of pts (214/237) were N–, 10% (23/237) were N+. Nodal involvement was present in 6.4% of TO and 11% of palpable tumors.

Most of nodal involvement was limited with 1 node involved in 78%. Most patients with N– tumors (169/214) (79%) did not receive any adjuvant treatment, 19.2% (41/214) had radiotherapy and 2.8% (6/214) adjuvant chemotherapy; 65% of pts (15/23) with N+ tumors had adjuvant chemotherapy, 13% (3/23) had hormonotherapy and 26% (6/23) had no treatment.

With a median follow-up of 89 months, N– pts had significative better survival than N+ ($p = 0.0006$).

Due to low rate of nodal involvement, we may wonder if A.N.D. could be avoided for non palpable MIBC. Randomized trial is on going to answer this question.

PP-3-4 10 Years Experience in External Beam Radiotherapy and Interstitial HDR 192 Iridium Implantation in the Treatment of Breast Cancer

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The authors present survival data of a prospective treatment method and demonstrate the safe use of Ir-192 high dose rate (HDR) implantations.

Since 1984 HDR Iridium-192 brachytherapy has been used to deliver an interstitial boost to the primary site in conservative breast cancer treatment. Up until December 1993 508 patients with 513 tumours have been treated (T1: 341, T2: 172, N+: 146, N–: 367). Treatment method included external beam irradiation of 45 to 50 Gy to the breast followed by an interstitial 10 Gy boost. Mean follow up of survivors: 69 months (27 to 137).

5-years actuarial data (10-yr. data in brackets): Overall survival: 88.1% (69.7%), local control: 95.9% (89.7%), disease free survival: 84.5% (75.0%), and disease specific survival: 91.8% (77.1%). There were no severe complications, except 1 patient with periostitis and neuralgia. The cosmetic results are very satisfactory.

Conclusion: The use of a HDR source in boosting the primary tumour

site after external beam radiotherapy with a dose of 10 Gy in 1 fraction is a safe procedure and has no negative impact on cosmesis. Our 5-years local relapse rate of 4.1% (10-yr.: 10.3%) and survival data are very similar to those reported in literature. Therefore we will continue with the described prospective approach.

PP-3-5 Risk Factors for Local Recurrence After Breast-Conserving Treatment: Results of a Multicentre Case-Control Study

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Introduction: In the Netherlands, a multi-centre case-control study was performed to identify treatment-related and histopathological factors associated with a high risk of local recurrence after breast-conserving therapy (BCT).

Methods: Through follow-up of the patients series of 11 radiotherapy departments, 360 patients with recurrence in the breast were identified. To each case patient two controls without local recurrence were individually matched for axillary nodal status, menopausal status and length of follow-up. Cases as well as controls underwent BCT in the period 1980–91, according to current standards. The excisional biopsy specimens were reviewed by two pathologists. At the time of analysis the specimens of most patients had been reviewed.

Results: The proportion of patients with a macroscopically narrow (< 1 cm) or incomplete excision was higher among the cases (35% vs 25%; p = 0.05). At pathological review, the cases showed a higher proportion of tumours with a poorly outlined margin (29% vs 14%; p = 0.006), a high malignancy grade (44% vs 29%; p = 0.002) and an extensive DCIS component (> 10 ducts involved); (30% vs 20%; p = 0.01). Also, cases had a higher proportion of tumours for which the review revealed doubts about the microscopic completeness of the excision (37% vs 20%; p = 0.001). No difference was found with respect to the presence of vascular invasion adjacent to the dominant lesion.

Conclusion: Multivariate analyses are ongoing. The first results indicate that pathological factors are associated with local recurrence after BCT.

PP-3-6 Patterns of Diagnosis of 350 Breast Failures in Patients Treated with Conservative Breast Surgery, Axillary Dissection and RT for Breast Cancer

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Introduction: 350 local recurrences after conservative radiosurgical treatment for breast cancer were recorded by 10 French Regional Cancer Centers. The goals of the study were to determine the patterns of diagnosis for breast relapse and to evaluate the follow-up schedule for the treated breast.

Method: First tumor and local relapse characteristics, time before occurrence of local failure and way of diagnosis for local relapse have been analysed.

Results: The first sign of breast relapse was clinical for 260 cases (74.3%), radiological for 82 cases (23.4%), ultrasonographic for 5 cases (1.4%) and pathological for 3 cases (0.9%).

- The study of positive examinations when local relapse was detected (sensitivity) showed: clinical examination: 76%, radiological examination: 66%, ultrasonography: 60%, cytology: 72%, biopsy: 83%.
- Time before occurrence of local failure is significatively correlated with microscopically incomplete excision (p < 0.05), multifocality (p < 0.05) and SBR grade (SBR) (p < 0.05).
- Patterns of diagnosis of breast recurrence is dependent on the DCIS component of the initial lesion (p < 0.05) and the initial tumor size, (local relapses of the initial T0 lesions are more frequently detected by mammography (p < 0.001)). 13/37 (35%) T0 are DCIS.
- Relation between DCIS component, 1st radiological diagnosis of relapse and microcalcifications.

DCIS = 100%	9 (43%)	9 (100%)
DCIS > 50%	15 (24%)	13 (87%)
DCIS < 50%	22 (22%)	14 (64%)
DCIS = 0	28 (25%)	16 (57%)

Conclusion: The first sign of local failure has been shown to be more frequently clinical (74%).

The time before occurrence of local relapse for tumors with microscopically incomplete excision, multifocal tumors and poor histologic grade tumors is shorter. The follow-up controls should be more frequently for these patients. The breast relapse is more frequently diagnosed by microcalcifications on mammography for DCIS initial tumor. Mammography of treated breast should be more frequent.

PP-3-7 Long Term Time Course of Breast Recurrence after Breast-Conservative Treatment of Small Breast Cancer

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Breast recurrences (BR) after breast conservating treatment can occur very long after treatment.

We analyzed the time course of recurrence (cumulative risk and annual hazards) in a series of 518 patients with small breast cancers (≤ 3 cm) treated with limited excision and irradiation. Median follow-up was 16.5 years (3–35 yrs). 89 BR occurred during follow-up. Median delay of BR was 80 months (14–353 months). Cumulative 15-year risk of BR was 79% ± 4% [95% CI]. Annual hazard of BR varied over time; it increased during the first 5–6 years, then decreased, and reincreased slowly after 10 years. Same quadrant recurrences were predominant during the first 10 years, with a maximum annual rate of 1.8%/year. Other quadrant recurrences predominantly occurred after 10 years and followed a similar pattern than contralateral breast cancers. -- We conclude that BR are made of two tumor populations: "true" recurrences that occur earlier after treatment (< 10 yrs) and "new primaries" that occur later (> 10 yrs). The incidence of the latter increases as follow-up gets longer.

Implications for prognosis, treatment of recurrence and surveillance will be discussed.

PP-3-8 Prognosis after Salvage Treatment for Local-Regional Recurrence of Mastectomy or Breast Conservation in EORTC Trial 10801

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Introduction: To investigate the efficacy of salvage treatment for local regional recurrences (LRR) after radical mastectomy (RM) or breast conservation (BCT), all 124/901 patients with a LRR in EORTC trial 10801 were analyzed.

Patients and methods: Of these, 69 patients had their LRR as first or only event. The prognostic significance of: randomisation arm (RM vs BCT), pTN classification at primary treatment, EIC+, vascular invasion, time to first recurrence (< 2 yr. vs ≥ 2 yr.), and extent of LRR (< 3 cm or single vs ≥ 3 cm, multiple or diffuse) was analyzed for survival and local regional control after salvage treatment using uni-, and multivariate analyses.

Results: For salvage treatment of LRR after RM or BCT, 5 yr. actuarial survival rates are 45% and 53% (curves super imposable) and 5 yr. local regional control rates 46% and 64% (small, non significant trend); indicating no significant difference. In a multivariate analysis, vascular invasion in the primary tumour (p = 0.02) was the only significant prognostic factor for survival, whereas extent of LRR (p = 0.0001), pN+ at primary treatment (p = 0.02) and time to recurrence < 2 yr. (p = 0.04) were significant prognostic factors for local-regional control.

Conclusion: In this randomised EORTC trial the survival and local regional control after salvage treatment for a LRR after RM or BCT is similar.