

rotation in 16%. Symptoms from the arm included swelling in 25%, reduced motility in 40%, fatigue in 44% and pain in 32%. Significant predictors for both objective and subjective complaints were high age (>60 years) and high number of removed lymphnodes. *Conclusion:* Axillary dissection leaves patients with considerable arm morbidity.

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POSTER

# RESULTS OF LOCALLY ADVANCED BREAST CANCER TREATMENT

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During 1982–1992 469 patients with locally advanced non-inflammatory breast cancer (T4N0—66, T4N1—269, T4N2—134) were treated using the following regimen: radiotherapy (RT) + radical mastectomy + RT + chemotherapy (5-Fluorouracil + Cyclophosphan) + hormonotherapy (ovariectomy, Tamoxifen). The medical age was 50 years. Preoperative RT was carried out at a single dose of 4 Gy to a total dose of 20 Gy for 5 days. 285 patients received concurrent additional irradiation of the tumor at a total dose of 10 Gy. Postoperative RT was performed using a single dose of 2 Gy, 10–12 days, total dose—20–24 Gy.

The cumulative 5-year and 10-year survival rate amounted to 57 + 2% and 39 + 4% respectively. 5-year survival without recurrence made up 46 + 2%, 10-year—30 + 3% 5-year loco-regional tumor control was in 94 + 1% of the patients, 10-year—90 + 2%.

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POSTER

# TAMOXIFEN ALTERS IMMUNOCOMPETENCE IN BREAST CANCER PATIENTS

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Tamoxifen (TM) has been described as having also mechanisms of action other than antiestrogenic, interfering with other events not mediated by estrogen receptors, and probably acting as an immunomodulating agent. In this work, natural killer (NK) cell activity and granulocyte (G) and monocyte (Mo) phagocytic functions were determined in 27 patients with ductal invasive breast carcinoma, stage I–III, before, 7 months and 14 months following postsurgical telecobalt radiotherapy (RT, total dose 40–55 Gy), divided into two groups, one of them (13 patients) receiving tamoxifen and the other one (14 patients) free of further therapy (CONTR). There was no difference in any function in CONTR group during the follow up. In TM group, slightly depressed 7 months after RT, NK cell activity increased at 14 months post-RT. G ingestion declined 7 months post-RT and remained depressed. Even Mo ingestion decreased 14 months after RT. The results obtained indicate longer-lasting suppressive effect of TM therapy on phagocytic functions.

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POSTER

# BREAST CANCER IN ELDERLY: MANAGEMENT AND CLINICAL OUTCOME IN 317 PATIENTS

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This is a retrospective study including 317 patients aged 70 years and over referred to our department between 1980 and 1990 for breast cancer. 113 out of 238 women with resectable disease (84 stage I–II, 154 stage IIIa) underwent a conventional treatment (surgery and/or radiation therapy), 64 underwent a no conventional combination of treatment (limited surgery and/or hormone therapy and/or radiation therapy), 40 underwent a single no conventional therapy (hormone therapy, radiotherapy, or limited surgery), 21 were not treated. 79 have a no operable extended disease (47 stage IIIb, 32 stage IV) and were treated with a combination of treatment. Five years local-regional control in patients with resectable breast carcinoma was significantly higher (76%) in conventional treatment group than in other therapeutic groups (48% for no conventional combination treatment and 34% for single treatment). No significant difference in 5 years survival rate was noted between conventional therapy group and no conventional combination therapy group (respectively 64 and 60%) whereas 5 years survival rate was significantly lower in single therapy group (39%) (chi square test). In patients with resectable disease, 29% of the deaths were related to breast carcinoma in the conventional treatment group, 37% in the combination group and 84% in the minimal treatment group. Conventional treatment did not

lead to a higher frequency of complication than that of younger population. 5 year survival rate was 65% in the extended disease group. High survival rates and frequency of deaths related to breast cancer call for validated guidelines in elderly. Combinations of no conventional treatments give good 5 years survival rates emphasizing the interest of this therapeutical approach.

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POSTER

# DUCT CARCINOMA IN SITU (DCIS) OF THE BREAST: RESULTS OF TREATMENT BY CONSERVATIVE SURGERY (CS) AND RADIOTHERAPY (RT)

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To determine local control, survival and cosmesis in women with DCIS treated between 1985 and 1994 by CS and RT we analyzed the results of treatment in 44 patients. All patients had CS; 43 patients had RT to the entire breast and 36 had a sequential boost to the tumour bed. One of the 44 patients had a minimum pathologic margins at time of excision. The mean dose to the whole breast and primary tumour site was 50 Gy and 61.8 Gy, respectively. The mean follow-up was 36 months. *Results:* 3 pat. failed, only one in the same quadrant. The mean time to failure was 38 months. All patients are alive; two are free from disease after rescue surgery and the other one has nodal, pulmonary and bone metastases, being in chemo-hormonotherapy. Cosmesis are excellent or totally acceptable in most of the patients. We achieve high local control, survival and cosmesis.

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POSTER

# POST-MASTECTOMY RADIOTHERAPY (RT) IN HIGH-RISK PATIENTS

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After mastectomy, the combination of Grade III tumour with nodal involvement incurs a high risk of local and regional relapse. We have previously reported (ISRO Meeting, Kyoto 1992) initial findings from a trial in randomly allocating such patients to receive postoperative RT (45 Gy in 15 fractions over 3 weeks), or not. From 9/85 to 9/91, 77 patients were recruited. All patients now have a minimum of four years from randomisation.

The results are:

	RT group (n = 36)	No-RT group (n = 41)	"p" value
Locoregional recurrence			
5 years	21%	64%	<0.0001
Free of any recurrence			
5 years	41%	21%	0.06
Survival			
5 years	56%	42%	0.23

The benefit of RT in controlling locoregional disease is re-emphasised by these mature data. The trial was closed after a short period of recruitment, having achieved significance for this end-point. The possibility that RT might have a wider role—in prolonging overall disease-free interval (and possibly survival)—now emerges, but cannot be unequivocally established from this study.

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POSTER

# TREATMENT RESULTS IN BILATERAL BREAST CARCINOMA COMPARED TO UNILATERAL BREAST TUMORS

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*Purpose:* A review of published data does not provide a certainty whether survival rates are comparable or worse in bilateral breast cancer patients versus women with an unilateral tumor. Therefore, results of therapy in one-sided and both-sided breast carcinoma were retrospectively analysed.

*Patients:* From 1977–82 (follow-up 5–12 years) 531 breast cancer patients (T1-4N0-3M0) were treated by mastectomy (n = 416) or conserving surgery (n = 115). Postoperative radiotherapy was performed in

all patients (50 Gy, 2 Gy/day 5×/weekly; chest wall/breast and regional lymph nodes) and those with positive lymph nodes received chemotherapy. Forty patients developed bilateral disease (simultaneous  $n = 10$ , metachronous  $n = 30$ ) that was treated by mastectomy ( $n = 28$ ) or conservative surgery ( $n = 12$ ), respectively, followed by radiotherapy ( $n = 26$ ).

**Results:** 5- and 10-year survival was 74% and 56% in unilateral affected women (metastatic-free survival 83% and 67%), respectively. Incidence of metastases was 27.9%. In bilateral breast cancer overall survival was 85% and 59% (metastatic-free survival 87% and 60%), respectively. Distant disease was diagnosed in 35%. The differences between both groups were statistically not significant. Whereas in time of follow-up 11% of unilateral tumors locally failed in bilateral cancer patients recurrences of the first and second tumor were seen in 20% and 10%, respectively.

**Conclusions:** Survival of patients with bilateral breast cancer is not significantly decreased compared to unilateral breast tumors although in patients with both-sided carcinoma local recurrences and metastases seem to occur more frequently.

#### 1041 POSTER EVALUATION OF BIOLOGICAL FACTORS AFTER PRIMARY RADIOTHERAPY IN OPERABLE (LARGE T2 AND T3) BREAST CANCER

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In order to evaluate the feasibility and effectiveness, from January 1993 a pilot study on accelerated preoperative radiation treatment (180 cGy twice daily for ten days; total dose 36 Gy) was conducted on a group of patients with large T2 and T3 N0 breast cancer. Besides, we studied biological features as prognostic factors: steroid receptors, flow cytometry, D-cathepsin and PCNA. To date 10 patients entered the study, all the patients with histology proven breast cancer unit the standard procedure for staging and gave their informed consent. Specimens of the primary tumor were obtained from a trucut biopsy. Patients received treatment from opposed fields covering the whole breast. Assessment of tumor size reduction was conducted 4 weeks after the end of therapy. 7/10 pts achieved a tumor reduction of >50% and in 2/10 pts non residual tumor was observed. Only 1 pt failed to respond to treatment. As for the surgical procedure, 9/10 pts underwent quadrantectomy while a radical mastectomy was performed in the non-responder. All the pts after 3–4 days from the end of radiotherapy experienced moderate redness lasting 24–48 hours. Clinical response, also, correlated with histologic grade, DNA ploidy, mitotic index and DNA index of the tumor before and after treatment in order to define if there was a *biologic down-staging*. All patients showed alteration of biological features after induction therapy: steroid receptors were represented larger (90%), in 40% increased the percentage of diploid cells and in 60% decreased aneuploid cells. According to our preliminary results we can conclude that the tumor response was as expected and comparable with results obtained by standard schedules. The shorter duration of treatment, the low incidence of acute effects, the absence of post-operative morbidity and the importance of biological factors make our schedule suitable for further studies.

#### 1042 POSTER TUMOUR-SPECIFIC SURVIVAL IN RADICALLY OPERATED PATIENTS WITH INVASIVE BREAST CARCINOMA

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A retrospective analysis of a population-based series of 1942 consecutive radically treated women living in Oslo county during the decade 1980–89 with histopathologically confirmed invasive breast carcinoma is presented. The outcome was analysed as regards to the responsible hospital within the county. The number of examined axillary lymph nodes were doubled at the national comprehensive cancer center (CC) located in Oslo as compared to the municipal hospitals (MH). Irrespectively of menopausal status, estrogen receptor content and any kind of adjuvant treatment, patients with stage I and pT2 treated at the CC displayed a significant superior long-term survival, most probably due to a down-staging of stage II patients to stage I in the MH. To eliminate false negative axillary lymph nodes status at least 6, ideally more than 10 nodes

should be examined. The consequence of downstaging will be that patients with stage II might not be given the indicated adjuvant therapy.

#### 1043 POSTER SURGICAL ASPECTS OF INDUCTION CHEMOTHERAPY IN STAGE II–III BREAST CANCER

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The issue considered is whether surgery is affected by induction chemotherapy in stage II–III breast cancer. This aspect of breast cancer management has not until now been totally clarified and therefore has taken the attention of our study group, particularly with regard to perioperative morbidity. Sixty patients with locally advanced/inflammatory breast cancer or large T2 N0–1 tumor treated by induction chemotherapy have been evaluated: at the time of diagnosis, 20 cases were in stage IIIB (inflammatory), 23 in stage IIIA/IIIB (non-inflammatory), and 17 cases in stage IIA/IIIB. Induction chemotherapy schedule was: CMF (CtX 150 mg/d days 1–14; Mtx 40 mg/m<sup>2</sup> days 1, 8; 5-Fu 600 mg/m<sup>2</sup> days 1, 8) as first cycle, Adriamycin (75 mg/m<sup>2</sup> day 1) as second, and CMF as last cycle. The local response to therapy-allowed breast conservation in 12 cases (20%) (4 in stage IIIA/IIIB and 8 in stage IIA/IIIB). Mastectomy was required in 48 patients (80%) (20 in stage IIIB, 19 in stage IIIA/IIIB, and 9 in stage IIA/IIIB), in 6 cases associated with immediate breast reconstruction, and in one case with full-thickness chest wall resection and prosthetic reconstruction. Surgery was performed 4 to 6 weeks after the last cycle of chemotherapy. Chemotherapy was then continued for a total of 6 cycles. All patients underwent postoperative radiotherapy on the chest wall or whole breast depending on the surgical procedure. There was no operative mortality. Perioperative morbidity was observed in 11 patients (18%): neutropenia that delayed surgery in 5 cases (8%); wound infection with delayed healing in 2 cases (3%); seroma in 3 cases (5%); partial necrosis of cutaneous flap in one case (1.5%); pneumonia and pleural effusion in one case (1.5%). No upper extremity lymphedema was observed. Complications were easily managed in all cases, determined only a slight increase of hospitalization and generally did not delay postoperative therapy. The 60 patients who underwent induction chemotherapy were compared with 60 patients treated directly by surgery. The two groups were matched according to age, type of surgery and time of operation. No significant difference ( $P = 0.077$ ) was found between the two groups in the incidence of postsurgical complications. As a conclusion, in our series induction chemotherapy did not seem to influence the outcome of surgery in terms of perioperative morbidity.

#### 1044 PUBLICATION BILATERAL CARCINOMA OF THE BREAST

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Involvement of the second breast is a challenging issue in breast cancer. There are still controversies on the incidence, distinction between secondary and new primary carcinoma and on the prognosis of these patients.

Among the 3165 patients with breast cancer treated between 1974–1984 in the Institute of Oncology Bucharest, 106 had bilateral breast cancer (3.34%) either simultaneously (synchronous) 31 cases (0.97%) or successively (metachronous) 75 cases (2.37%). The highest frequency of bilateral breast cancer was at patients aged between 41 and 50 years old.

**Metachronous bilateral cancer.** In over 50% of cases the cancer of the opposite breast developed after 1–4 years. Localization of the minor in the same quadrant for both breasts was not higher than 24%. The second cancer was detected at a relatively early stage compared to the first tumor. Survival rate at 10 years was much lower for these patients compared with unilateral breast cancer (17.3% versus 62%).

**Synchronous bilateral cancer.** Both breasts were involved simultaneously or in less than 1 year one after the other. The high rate of stage III breast cancer (49%) and the much lower survival rate (9.7%) plead for an aggressive evolution of these cases.

**In Conclusion** bilateral cancer is associated with poor prognosis and a multimodal treatment is mandatory.