A multicenter, observational study was therefore designed to correlate different treatment strategies and techniques with clinical outcome.

Material and methods: All patients irradiated during 1997 to the breast after conservative surgery in each of 12 participating Centers were included in the study, yielding a total of 1620 cases. However, 4 Centers were not able to update the follow-up after 2001, and all their cases were excluded from the present analysis, based on the remaining 1176 patients treated in 8 Centers. Relevant baseline patients' characteristics were the following: age was 25−50 years (y) in 32%, 51−65 y in 44%, and 66−80 y in 24% of cases; pT-stage was T1a in 3%, T1b in 21%, T1c in 54% and T2 in 19% of cases; pN-stage was N0 in 71%, N+(1−3) in 21%, and N+(> 3) in 8% of cases; estrogen and progesterone receptor status was positive in 68% and 53% of cases, respectively. Surgical procedure was quadrantectomy in 97% of patients, with axillary dissection performed in 96% of cases. Adjuvant chemotherapy alone was given to 24%, chemotherapy and hormonal treatment to 11%, and hormonal treatment alone to 38% of the patients, while 27% of patients received no adjuvant medical treatment. Median interval from surgery to RT was 57 days; CT- or external contour-based 2-D treatment planning was performed in 89% of patients; total ICRU dose to the whole breast was 50 Gy in 85% of cases; a boost dose was given in 60% of cases (dose range, 5−18 Gy); total dose to tumor bed was 50 Gy in 31% and 60 Gy in 54% of cases; median RT duration was 42 days.

Results: With a median follow-up of 6.2 y (range, 0.2−8.2 y) disease-free, overall and disease-specific survival rates at 5 years are 90%, 95% and 96%, respectively; local, regional and distant control rates at 5 years are 98%, 99% and 92%, respectively (see Table). Factors significantly predicting for decreased disease-free survival in a multivariate analysis were high pN-stage (p < 0.001), lack of adjuvant treatment (p = 0.001), high grade (p = 0.004), high pT-stage (p = 0.009), multifocality (p = 0.039), and pre-menopausal status (p = 0.043). Factors that significantly predicted for decreased local control were younger age (p = 0.005), lack of adjuvant treatment (p = 0.009) and high pN stage (p = 0.03).

	3 year	5 year	7 year
Disease-free survival	94%	90%	85%
Overall survival	97%	95%	92%
Disease-specific survival	98%	96%	94%
Local control	99%	98%	95%
Regional control	99%	99%	98%
Distant control	95%	92%	90%

Conclusions: In a multicenter, population-based setting, conservative surgery followed by RT was associated with excellent rates of local-regional control and disease-specific survival. Despite several differences in radiotherapy techniques, clinical outcome was comparable between Centers. Patient age, tumor-related factors and adjuvant treatment were significant predictors for both survival and local control.

370   POSTER
Left breast irradiation in breast conservative cancer treatment: analysis of doses in V20 in lung and heart

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Introduction: In the last few years, the incidence of breast cancer is increasing progressively. Simultaneously, the used of breast conservative treatments and new more cardiotoxic chemotherapy regimens are widely used in this group of patients. The risk of cardiac and pulmonary complications increases as the volume of and the dose to these structures increases. We analyzed the V20 dose to lung and heart using a CT treatment planning.

Material and methods: We analyzed 42 left side breast cancer patients, treated with breast conservative treatment and radiotherapy. We treated regional nodes (supraclavicular and axillary nodes) in 6 patients. All the structures (whole breast, tumor bed, lung and heart) were identifying using CT treatment planning, and 1 cm slices were taken through the whole breast. All the patients were treated with an isocentric technique with opposite tangential fields, and wedge filters, with photons of 4 MV in 30 patients and with 6 MV in 12 patients. All the patients received whole breast radiation therapy for a total dose of 50 Gy in 200 cGy daily, followed by a boost to the tumor bed. Chemotherapy was administered in 24 patients (57%), and this treatment was concurrently in 5 patients.

Results: The treatment planning system in 3D used were a Theraplan plus Median V20 dose in lung were 6.20 cGy (range 0−21.4) and median dose in heart were 1.35 cGy (range 0−5.4). None of the patients presented any

clinical cardiac or pulmonary toxicity (no fibrosis, edema or cardiac failure), included patients with concurrent chemotherapy. We analyze the factors that influence in these results, like technique of simulation, determination of target volume and selection of treatment planning.

Conclusion:
- The CT treatment planning in 3D in left breast cancer is a method that achieve an homogeneous doses in the target volume and simultaneously can accurately preserve the risk organs like heart and lung.
- In our series, the dose of radiation that achieves the cardiac muscle is very low, That's why the secondary effects and late toxicity are very rare and without any clinical repercussion.

We need more studies to demonstrate that we can use concurrent chemoradiotherapy treatments in breast cancer without increased the risk of cardiac or pulmonary toxicity

371   POSTER
Results and prognostics factors in patients with breast cancer treated with adjuvant radiotherapy after mastectomy

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Objective: To resrospectively evaluate the efficacy of the treatment and possible prognostic factors in patients treated with adjuvant radiotherapy after mastectomy.

Materials and methods: Between January 1994 and December 2001, 899 patients with a diagnosis of breast cancer were treated with adjuvant radiotherapy after mastectomy in Hacettepe University, Faculty of Medicine, Dept. of Radiation Oncology. Radiotherapy was routinely applied to patients with positive surgical margin, skin-fascia invasion, tumor size of more than 4 cm, more than 3 lymph node (LN) metastasis and incomplete axillary dissection (< 10 LN). Chest wall ± periferic lymphatics were irradiated with conventional daily fractionation to a total dose of 46−50 Gy.

Results: The median age was 47 years (range, 19−85 years). Seven hundred sixty (85%) patients had modified radical mastectomy, 74 (8%) had radical mastectomy, 65 (7%) had simple mastectomy before radiotherapy. Median follow up was 62 months (range, 4−136 months). The actuarial overall 5-year survival (OS) was 82%, whereas the actuarial 5-year disease-free survival (DFS), loco-regional relapse free survival (LRRFS), and distant metastasis-free survival (DMFS) rates were 67%, 90%, and 74%, respectively.

Univariate analysis for OS revealed significance for tumor size (⩽5 cm vs. >5 cm, p < 0.0001), number of metastatic LN (0 vs. 1−3 vs. > 4 LN, p < 0.0001), percent positive nodal involvement ([metastatic nodes/total nodes removed]× 100;0% vs. ⩽25% vs. 26−50% vs. >50%), AJCC 2002 stage (p < 0.0001), surgical margin status (negative vs. positive, p = 0.02), surgery type (p < 0.0001), neoadjuvant chemotherapy (present vs. absent, p < 0.001), adjuvant hormonotherapy (present vs. absent, p = 0.008) and grade (grade I vs. grade II vs. grade III/IV, p = 0.05). For DFS number of metastatic LN (p < 0.0001), percent positive nodal involvement (p < 0.0001), AJCC 2002 stage (p < 0.0001), surgical margin status (p = 0.04), vascular invasion (present vs. absent, p = 0.007), perinodal fat tissue invasion (present vs. absent, p = 0.004), neoadjuvant chemotherapy (present vs. absent, p = 0.0001), adjuvant chemotherapy (present vs. absent, p = 0.05) and surgery type (p = 0.0006).

Multivariate analysis revealed importance for grade, tumor diameter, percent positive nodal involvement, hormonal treatment, and surgical margin status in OS. Age (⩽ 40 years vs. > 40 years), grade, percent positive nodal involvement, neoadjuvant chemotherapy and stage were found to be significant for DFS.

Conclusions: In this study, we have revealed percent positive nodal involvement as a poor prognostic factor for all survival in end points and found the worst prognosis for patients having more than 50% nodal involvement. It seems that percent positive nodal involvement instead of crude number of metastatic LN more informative for prognosis.

372   POSTER
Breast cancer in the US, UK, France, and Germany: whom do patients see and how do they get medical information?

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Background: Breast cancer is the No. 1 cancer in women, and the No. 2 cause for death due to cancer. However, it is unknown if country-specific consultation patterns exist for these patients and how these patients obtain medical information.

Materials and methods: A comprehensive, cross-sectional survey of adults ⩾18 years in the US, UK, France, and Germany was conducted in May-June 2004. Patients were drawn from nationally representative Internet panels through Harris Interactive (US, Europe). Invitations were sent to a

stratified sample, and results were projected to reflect the total population in each country using known population incidences – US: gender, age, race/ethnicity, and educational distribution from 2003 Current Populations Survey Annual Demographic File; Europe: gender, age, and education distribution from the International Data Base of the US Census Bureau and Organization for Economic Cooperation and Development.

Results: 67,198 adults completed the National Health and Wellness Survey (Table). In the 6 months preceding the survey, in all countries, those with breast cancer more often than those without visited a general practitioner/family practitioner (GP/FP) and an oncologist; in the US, UK, and Germany, an internist; and in France and Germany, a gynecologist (women). In the UK, breast cancer respondents visited rheumatologists more often than oncologists. Visits to GP/FPs and oncologists (all countries) and internists (US, Germany) were variably higher for breast cancer respondents than for those without breast cancer. More respondents with breast cancer than without visited an emergency room or were hospitalized in the prior 6 months in the US, UK, and Germany. In the US, breast cancer respondents frequently used a doctor as a source of medical information, followed by the Internet, pharmacist, nurse/nurse practitioner, and family/friend (Table). Other countries also used these sources, but to differing degrees. Breast cancer respondents in all countries ranked medical professionals (doctors, pharmacists, nurse/nurse practitioners) as most trustworthy and media (newspaper/magazine, TV/radio) as least trustworthy sources of medical information.

Demographics and selected results of the National Health and Wellness Survey

Breast cancer status	US (n = 40,730)	UK (n = 8,393)	France (n = 9,011)	Germany (n = 9,064)
No, n	40,137	8,329	8,938	9,005
Mean age, y	44	47	47	47
Female, %	51.2	51.3	50.6	50.9
Yes, n (%)	593 (1.5)	64 (0.7)	73 (0.8)	59 (0.7)
Mean age, y	61	64	61	67
Female, %	99.7	96.2	99.2	95.5
Top 5 frequently used sources (%)	Doctors (48.4) Internet (26.3) Pharmacists (21.2) Nurse/NP (17.3) Family/friend (14.0)	Doctors (36.3) Nurse/NP (20.7) Family/friend (19.1) Pharmacists (16.7) Internet (10.0)	Doctors (50.6) Pharmacists (22.3) Nurse/NP (13.0) Family/friend (10.5) Internet (8.9)	Doctors (30.4) Internet (23.6) Pharmacist (21.9) Family/friend (19.0) Health insurance (23.6)

NP = nurse practitioner.

Conclusions: Overall, there were no substantial differences in consultation patterns between breast cancer and non-breast cancer respondents in the countries investigated; however, there were country-specific differences in how medical information was obtained by those with breast cancer.

373   POSTER

Locoregional recurrence after conservative treatment for invasive breast carcinoma: the effect on survival and distant metastasis

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Background: Patients with invasive breast cancer submitted to conservative treatment must be followed for a long period of time to ensure the efficacy of the procedure regarding locoregional control. This study was performed to analyze the outcome and the relationships between locoregional recurrence (LRR) and, distant metastasis (DM) and survival.

Material and methods: Fifteen-year prospective study including 470 patients with early breast cancer, stage I and II, who underwent breast conservative treatment. Tumor size, nodal status, age, menopausal status, histological grade and LRR were analyzed for their ability to predict overall survival, disease-specific survival and distant disease-free survival.

Results: With a median follow-up time of 6.6 years (3 months-19.1 years), there were 19 LRR at their first site of recurrence and 53 distant metastasis. On univariate analysis, patients with LRR had a lower 10-year overall survival and DM-free survival: $61\pm12\%$ vs. $85\pm2\%$ (log rank = 8.06, p < 0.005) and $62\pm11\%$ vs. $87\pm2\%$ (log rank = 10.94, p < 0.001), respectively. Tumor size > 2 cm, positive lymph nodes and histological grade III were also significantly related to lower overall survival and DM-free survival. On multivariate analysis, nodal status, histological grade III and LRR (either as a categorical or as a time-dependent variable) were significantly related to overall, specific and DM-free survival, whereas tumor size had only a borderline effect on specific and distant disease-free survival.

Conclusions: LRR appears to be a significant predictor of DM and survival and patients who sustain early LRR tend to display a more aggressive clinical course

Breast cancer – early disease

374   PUBLICATION

Biochemical markers of the risk for cardiovascular disease in women with early breast cancer treated with anastrozole

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Background: Endocrine therapy for breast cancer targets estrogen – one of the major regulators of lipid metabolism. Newer generation aromatase inhibitors, such as anastrozole, actively suppress synthesis of estrogens from androgenic substrates. In some previous studies the effect of anastrozole on lipid profile was analyzed in patients with advanced/metastatic disease and/or pretreated with tamoxifen, both of which may interfere with lipid metabolism. In this study we evaluate the effect of anastrozole on lipoprotein / lipid profiles of patients with early breast cancer when used in adjuvant setting.

Material and methods: Fasting blood samples were taken from 54 postmenopausal women (median age: 64, range: 41–83 years). Serum concentrations of apolipoprotein A-I (APO-A-I), apolipoprotein-B (APO-B), triglycerides, total cholesterol (T-CH), high density lipoprotein cholesterol (HDL-CH), low density lipoprotein cholesterol (LDL-CH) as well as body mass index (BMI) values were prospectively measured at baseline and 1, 3, 6, 12 months afterwards. All the patients completed 12 months anastrozole administration.

Results: We did not observe any statistically significant changes in apolipoproteins and lipid profiles as well as the BMI values during anastrozole therapy. Morever, the risk of cardiovascular diseases as measured by atherogenic ratios (TCH/HDL-CH, LDL-CH/HDL-CH and APO-A-I/APO-B) remained unchanged throughout anastrozole administration.

Conclusion: Anastrozole – when used in the adjuvant setting in women with early breast cancer – did not have any detrimental influence on biochemical markers of cardiovascular risk.

375   PUBLICATION

Neoadjuvant capecitabine (X) plus docetaxel (T) for patients (pts) with locally advanced breast cancer (LABC): preliminary safety and efficacy data

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Background: The 3-weekly XT combination has significant activity in metastatic breast cancer, resulting in significantly superior survival, time to progression and response rate compared with T alone. Both drugs are synergistic with trastuzumab in HER2-positive tumours. This single-centre phase II study evaluated the efficacy and safety of weekly XT as neoadjuvant therapy for LABC.

Materials and methods: Pts with newly diagnosed invasive stage III inoperable breast cancer (cT4 and/or cN2–3) received X (900 mg/m^2 orally bid d1–14) plus T (36 mg/m^2 i.v. d1&8) every 3 weeks for 6 cycles, followed by surgery and radiotherapy. Pts with HER2-positive tumours (IHC 3+ or FISH+) also received trastuzumab (8 mg/kg on d1 of the first 3-weekly cycle and 6 mg/kg on d1 of subsequent cycles). Safety was evaluated after each cycle, clinical response after 3 and 6 cycles, and pathological complete response (pCR) postoperatively. pCR was defined as no residual invasive tumour in breast and axilla.

Results: To date, 19/34 pts have completed neoadjuvant chemotherapy and surgery. Baseline characteristics are as follows: median age 50 years (range 25–74), median ECOG PS 0 (range 0–1), ER/PR/HER2+ status 68/58/21%. The most common treatment-related adverse events (all grades) were diarrhoea (63%), hand–foot syndrome (HFS, 63%), nail changes (63%), peripheral neuropathy (58%) and lacrimation (56%). The most frequent grade 3/4 treatment-related events were diarrhoea (21%), HFS (10%) and anorexia (10%). Dose reductions were applied because of grade 2/3 adverse events (mucositis, HFS, diarrhoea, peripheral neuropathy and skin rash) in 5 pts and because of neutropenic fever in 1 pt. Therapy was prematurely interrupted because of disease progression (1 pt), capillary leak syndrome (1 pt), psychological intolerance (1 pt) and infection (1 pt). Median and mean dose intensities were 100% and 97% for T and 100% and 93% for X. The overall response rate was 79%, including 2 CRs and 13 PRs. A further 2 pts had stable disease. pCR was achieved in 2 pts who completed 6 cycles of XT. Most pts (75%) received postoperative anthracycline-based chemotherapy (4–6 cycles of FEC100) without unexpected toxicity. All pts with hormone receptor-positive tumours received locoregional radiotherapy and adjuvant hormonal therapy.