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Purpose or Objective
The goals of the study was to report acute and late toxicity, effectiveness and QoL of intraoperative radiotherapy (IORT) as a anticipated boost during breast conserving surgery (BCS) followed by whole breast irradiation (WBI).
Material and Methods
Between 2008 and 2011 in 150 breast cancers patients treated in Greater Poland Cancer Centre. Intraoperative radiotherapy as a tumor bed boost was applied using mobile electron accelerator Mobetron 1000 (IntraOp Medical, Inc.). IORT boost (10 Gy) was followed by 50 Gy whole-breast external beam radiotherapy (EBRT). Chemotherapy, if indicated, was given before EBRT. The observation period was 1,5-5,5 years.
The data was assessed by CTCAE ver. 3.0 scale 1 month and 6 months after RT. The statistical analysis was performed with Maentel-Haenszel test. Late toxicity was analyzed with LENT-SOMA scale 1 year after RT.
The data was assessed by EORTC questionnaires (QLQ-C30 and QLQ-BR23) 1 month after RT, 6 months, 1 year, 2 years, 3 years and 4 years.**Results**
There was only grade I and II acute toxicity reactions. There was no statistical significance differences between (Mantel-Haenszel test) percentage of patients with acute reaction in 1 month and 6 months after RT.
The late toxicity occurred in 82 patients (55%). The main side effect of treatment was fibrosis, which has occurred in 60 patients (73.1%) from 82 in general with late radiation induced reactions. There was grade I and II predominance. Grade III occurred in 5 patients (skin retraction).
There was no statistical significance change in quality of life in any follow-up period based on Friedman test analysis (p=0,2143).
There was statistical significance change in body image between 1 and 6 months after radiation therapy (p=0,008), but it was lower than EORTC reference score.
Sexual enjoyment was lower than EORTC reference score in any follow up period time.
Systemic therapy side effects was higher than EORTC control group in any follow up period time.**Conclusion**
Intraoperative radiotherapy is proved to be safe, effective, well tolerable and perspective procedure in breast cancer treatment with no statistical significance influence on quality of life.

EP-1261 Post Mastectomy Irradiation in 1 – 3 node positive early breast cancer – Is it really required?
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Purpose or Objective
The role of radiation therapy in early stage breast cancer with 1 – 3 positive lymph nodes post mastectomy is controversial and there are no clear guidelines for the same. Various studies have assessed the risk factors and some have devised prognostic tools. In this study, we analyze the associated clinical outcomes and associated risk factors associated with radiation versus no radiation therapy in such cases
Material and Methods
Of the total 1598 women treated for breast cancer, the study cohort comprised of 197 women treated at Jupiter Hospital between 2009 to 2016 with pathologic T1-T2 breast cancer and one to three positive nodes treated with mastectomy with 107 patients not receiving radiation and 90 females with adjuvant RT. The actuarial 5-year Kaplan-Meier estimates of isolated LRR and LRR with or without simultaneous distant recurrence (LRR +/- SDR) were analyzed according to age, histologic findings, tumor location, size, and grade, lymphovascular invasion status, estrogen receptor (ER) status, margin status, number of positive nodes, number of nodes removed, percentage of positive nodes, and systemic therapy use. Multivariate analyses were performed using Cox proportional hazards modeling. A risk classification model was developed using combinations of the statistically significant factors identified on multivariate analysis. A Prognostic tool was constructed using the following prognostic factors (a) number of positive LN/lymphovascular invasion, (b) tumour size (c) margin status and (d) tumour grade. Patients were categorised as high (H) risk, intermediate (I) risk and low (L) risk. PMRT was recommended for H and I risk patients. The LRR, distant metastasis and overall survival (OS) rates were measured from the day of mastectomy.
Results
The median follow-up was 38 months. Overall, the 5-year Kaplan-Meier isolated LRR and LRR +/- SDR rate was 10% and 14%, respectively. Without PMRT, a 10-year LRR risk of >20% was identified in women with one to three positive nodes plus at least one of the following factors: age <45 years, tumor size more than 3 cm, histologic Grade 3, ER-negative disease, medial and central location, three positive nodes (all $p < 0.05$ on univariate analysis). On multivariate analysis, age <45 years, 3 nodes positive, medial tumor location, and ER-negative status were statistically significant predictors of isolated LRR and LRR +/- SDR. In women >45 year tumor location and ER status were factors that could be used to further distinguish low-risk from higher risk subsets. The 5-year actuarial overall survival rates were 70%, 81% and 94% for H, I and L risk groups, respectively.
Conclusion
Clinical and pathologic factors can identify women with T1-T2 breast cancer and one to three positive nodes at high LRR risk after mastectomy. Age <45 years, 3 nodes positive, a medial and central tumor location, and ER-negative status were statistically significant independent factors associated with greater LRR mandating the need for radiation therap. The absence of high-risk factors identifies women who may reasonably be spared the morbidity of PMRT.

EP-1262 Postmastectomy RT Decision for Lymph Node Negative Patients: Turkish Radiation Oncology Society
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Purpose or Objective
Early Breast Cancer Trialists' Collaborative Group meta analyses have shown that postmastectomy radiotherapy (PMRT) had no significant effect on locoregional recurrence (LRR), overall recurrence or breast cancer

mortality for patients without lymph node metastases. On the other hand it has also been shown that the risk of developing LRR is rising up to 15% or more for women in the presence of two or more adverse factors even though there is no lymph node involvement. In this study, PMRT indications were evaluated in 12 centers, overall Turkey to observe and document the decision making after mastectomy.

Material and Methods

The files of patients, treated for breast cancer between years 2006 and 2016 were retrospectively analyzed. Patients who received neoadjuvant systemic treatment were excluded. The characteristics of 185 patients, without lymph node metastases but with micrometastasis who received PMRT were evaluated. Ninety-three (50%) patients received chest-wall (CW) radiotherapy (RT), 45 (24%) patients received supraclavicular and full axillary lymph node RT in addition to CW, 32 (17%) patients received CW and supraclavicular RT and 15 (8%) patients also received internal mammary chain RT in addition to CW and supraclavicular ± RT.

Results

The mean age of patients was 48 years (range, 22-82 years). Of the patients, 118 (64%) were at the premenopausal stage and 65 (36%) were at the postmenopausal stage. The most frequently surgical technique was MRM (57%). The ratios of BM, NAC and SSM was 32%, 6% and 5%, respectively. Dissection was performed to assess the axilla in 108 (58%) patients and the mean number of extracted lymph nodes was 16. The number of sampled lymph nodes extracted with SLNB was 3 in 77 patients. Among all patients, 147 (79%) had negative axilla. Micrometastasis and isolated tumor cells were detected in 32 (17%) and 6 (3%) of the patients.

In 60% of patients who had undergone PMRT, the tumor stage was detected as T1-T2. The ratios of T3 and T4 were 36% and 4%, respectively. The ratio of patients with histological grade 2 and grade 3 was 88% and the presence of LVI was found as 50%. When the surgical margins were evaluated, ink was detected on tumor of 30 patients (16%) and the number of patients having tumor at a distance of less than 2 mm was 30 (16%). Surgical margins were reported as negative in 125 (68%) patients. RT was performed to the chest wall of 50% patients, and certain peripheral lymphatics were included in other 50%.**Conclusion**

Majority of the patients were premenoupausal, T2 or T3 stage, G2 or G3 with Lymphovasculer invasion and high proliferation index. Statistical analysis show that the decision to opt for CW with lymph node area in lieu of CW only for patients with micrometastatis is meaningful. Another statistically meaningful finding is that CW with lymph node area irradiation is preferred over CW-only for patients who are c-erb2 positive.

EP-1263 Radiotherapy after Sentinel Lymph Node Biopsy using a super paramagnetic iron oxide particles tracer

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Purpose or Objective

The aim of this study is to evaluate the early and late tolerance of the radiotherapy following Sentinel Lymph Node Biopsy (SLNB) using a magnetic tracer, super paramagnetic iron oxide particles (SPIO) in large population of patients treated for breast cancer.

Material and Methods

We studied 459 consecutive melanoma and breast cancer patients underwent SLNB using SPIO in feasibility study. All patients were included and studied prospectively between October 2013 and December 2016. Of them, 360 consecutive breast cancer patients (four of whom had bilateral involvement) with cT0-T2N0 were operated without primary systemic treatment. All of them received SPIO injection 20 minutes before the surgical procedure and some of them received also isotope at the evening before or the same day of the surgery. Injection site for SPIO and Isotope was peri-areolar. In our study we evaluated the tolerance of postoperative radiotherapy.

Results

The median age of the patients was 63 years. The mean tumour size was 17.3 mm. The median follow-up period was 17 months [range, 1-42]. 328 (90.1%) patients underwent SLNB using SPIO alone. Mean number of lymph nodes was 2.5 [2-7]. The detection value of the procedure was 99.4%. 294 SLN were (80.8%) negative. There were 288 irradiated patients (80%). Most of them (96%) experienced grade 0-2 radio dermatitis and only 3 patients have shown grade 3 skin reaction. No higher grade reaction was observed. At 17 months follow-up period, more than 50% of patients were presented with residual pigmentation.

Conclusion

This largest prospective single centre study has shown that the radiotherapy after SLNB using SPIO is feasible, no increased toxicity was observed. But longer follow-up and larger series are needed to document the long-term toxicity, as well as the moment of disappearance of the residual pigmentation.

EP-1264 Prophylactically applied Hydrofilm reduces radiation dermatitis in whole-breast radiation therapy

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Purpose or Objective

Numerous treatments have been studied for prevention and management of radiation-induced skin injury. While protective superficial barrier-forming skin products, such as dressings or patches, have been used for decades in wound care management, their utilization for prevention of radiation dermatitis has barely attracted attention. We evaluated whether prophylactically applied Hydrofilm polyurethane dressings can reduce frequency resp. severity of radiation dermatitis.

Material and Methods

In this prospective, intra-patient randomized study, Hydrofilm (Paul Hartmann AG, Heidenheim, Germany) polyurethane film dressings were applied prophylactically to either the medial or lateral breast half of 59 patients undergoing adjuvant radiation therapy of the whole breast following breast-preserving surgery (fractionation regimen was 50 Gy in 25 fractions, patients receiving neoadjuvant or concurrent chemotherapy were excluded). During radiotherapy the contralateral breast half was treated with 5% urea lotion (Eucerin UreaRepair Plus 5%, Beiersdorf AG, Hamburg, Germany) twice daily (control skin care) as recommended by several European medical guidelines for the prevention of radiation dermatitis. Phantom studies were performed in order to evaluate possible dose variations resulting from the application of Hydrofilm. In weekly visits and on completion of radiation therapy, maximum severity of radiation dermatitis and erythema was assessed using RTOG/EORTC toxicity scores, and 5 objective photospectrometric erythema measurements (CR-200, KonicaMinolta, Maronouchi, Japan) were performed in both breast compartments at the end of radiation therapy. Patient-assessed treatment experiences of itching, burning, pain and limitations of day to day