ductal carcinomas in situ. Axillary lymph node involvement was seen in 34.3%. Most of the tumors were estrogen positive (68.75%) and progesterone positive (65.6%). A systemic therapy was given in 81.25% of the patients. After second breast conserving therapy or no surgery re-RT was given to the involved quadrant using external-beam ports (electrons or photons) with doses of 50-60Gy in 2Gy per fraction. The median age at local relapse was 65.8 years. A second breast conserving therapy was performed in 90.7% of the patients. 9.3% had no surgery and were re-irradiated to a dose of 60Gy. A systemic therapy was given in 84.3%. Survival and local control were calculated by the Kaplan-Meier actuarial method.

Results: A total of 32 patients were retrospectively analyzed. The median follow up of survivors was 181 months from first diagnosis and 33 month from second RT. At the time of analysis 4 patients had died. The median time between first and second RT was 9.9 years (range 1.8-20.3). Fifteen years after first diagnosis 86% of the patients were still alive. Four women died, 3 on cancer. After second RT only one acute G2 toxicity of the skin was reported (desquamation). Late toxicity was scored using the LENT-SOMA Score Criteria. Lymphedema (G1) of the ipsilateral arm was observed in 3.1%, 3.1% reported on intermittent pain in the breast and fibrosis G2 was observed (desquamation). Late toxicity was scored using the LENT-SOMA Score Criteria. The highest rate of late toxicity was G2 fibrosis in 18.7%. No G3 or G4 toxicity was observed.

Conclusion: Carefully planned re-RT of the involved breast quadrant is a safe alternative therapy for those women who did not give their consent to the recommended mastectomy. No second local relapse was detected after re-RT. Acute side effects were low. In 18.7% of the women fibrosis G2 was detected.

OC-0054
Reirradiation+hyperthermia for recurrent breast cancer - en-cuirasse in previously irradiated area
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Purpose or Objective: Cancer en cuirasse is a severe locoregional manifestation of breast cancer, usually occurring after a number of treatment failures. Treatment options are limited. One hundred and sixty-nine patients were treated with re-irradiation and hyperthermia (reRT-HT) from 1982 till 2006. Response and toxicity rates as well as the locoregional progression free interval were determined to assess the palliative value of this treatment.

Material and Methods: All patients had received extensive previous treatments, including surgery, irradiation (median dose 50Gy with or without boost) and systemic treatments. Seventy-five percent of patients had 1-7 previous locoregional recurrence episodes; 68% were treated with systemic therapies and 27% underwent salvage surgery. At start of re-RT-HT the tumor area comprised ≥ 3/4 ipsilateral chest wall in 81.25% of patients. Fifty-two percent had areas of ulcerating tumor. Distant metastases were present in 45% of patients. reRT consisted typically of 8x4Gy, twice a week or 1x2x3Gy, four times a week. Superficial hyperthermia was applied once or twice a week using 434MHz Contact Flexible Microstrip Applicators (CMFA), heating the tumor area to 41-43°C for one hour.

Results: The treatment was well tolerated; 154 patients completed treatment, only 15 patients did not, due to disease progression in 12, toxicity in 2 and refusal in 1 patient. Overall clinical response rate was 72% (30% CR; 42% PR), while only 6% showed PD. Median follow-up time was 7 months. The 1-year progression-free-interval was 24% with a 1-year survival rate of 36%. Acute ≥ grade 3 toxicity occurred in 33% of patients and consisted mostly of ulceration and dermatitis. The occurrence of radiation ulcers was significantly related to the presence of ulcerating tumor before the start of the reRT-HT (P=0.004, HR = 4.4).

Conclusion: The combination of re-irradiation and hyperthermia is well tolerated and results in high response rates despite extensive disease and resistance to previous treatments. ReRT-HT is a worthwhile palliative treatment option for this patient group who suffer from extensive locoregional tumor growth and have a very poor prognosis.

Proffered Papers: Clinical 2: Adverse effects in radiotherapy

OC-0055
Pseudo-progression after stereotactic radiotherapy of brain metastases is serious radiation toxicity
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Purpose or Objective: Stereotactic radiotherapy (SRT) of brain metastases results in regression of most treated metastases, but subsequent lesion growth may occur and is caused by either tumor progression or pseudo-progression, which is probably a radiation effect on surrounding normal brain tissue. It is unknown if active treatment is indicated in symptomatic patients, or if it is better to wait for spontaneous recovery. The purpose of this study is to describe the clinical course of brain metastasis patients developing pseudo-progression after SRT to improve clinical decision-making.

Material and Methods: Follow-up MRI scans of all patients who received SRT of brain metastases from 2009 through 2012 were reviewed for post SRT lesion growth. Depending on the volume of the metastasis, the patients had received one fraction of 21Gy, 18Gy, or 15Gy, or three fractions of 8Gy or 8.5Gy. The GTV-PTV margin was 2mm. Pseudo-progression was considered to be the cause of this lesion growth if a histological diagnosis of necrosis had become available, if the lesion had shown subsequent regression or if two neuro-radiologists agreed upon this diagnosis based on a review of the follow-up perfusion MRI scans. The clinical course of the patients with these pseudo-progressive lesions was retrospectively studied.

Results: In a total of 237 treated patients we identified 37 patients with 50 pseudo-progressive lesions. The median follow-up of all patients still alive was 40.7 months. The main clinical symptoms that were attributed to this lesion growth were neurologic deficits, headache and seizures in 19 (51%), 3 (8%) and 4 (11%) patients respectively (unknown in one). Ten patients (27%) had no symptoms attributed to the lesion growth and remained asymptomatic afterwards. Of the 19 patients with neurologic deficits one improved after spontaneous regression of the lesion, one improved after surgery and 17 did not improve. Two out of the four patients with seizures improved with ant-epileptic drugs (AED's), one improved after surgery and one did not improve. Only one of the three patients with headache improved with steroids. Spontaneous regression of an initially pseudo-progressive lesion was observed in 18 patients. Twelve of these 18 patients had symptomatic pseudo-progression, but only one of these 12 patients experienced neurologic improvement without treatment. In 6 patients their deaths were related to the pseudo-progressive lesion.

Conclusion: Patients with an asymptomatic pseudo-progressive lesion frequently remain asymptomatic. Patients with a symptomatic pseudo-progressive lesion only rarely recover spontaneously. Active treatment, such as surgery, should be considered for these patients. Therefore,