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Radiation Induced Skin Toxicity Following Hypofractionated Radiotherapy Treatment in Early Breast Cancer: Single Institution Experience

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Background: this study aims to assess differences in incidence of radiation-induced skin toxicity between conventional and hypofractionated radiotherapy in early breast cancer patients.

Materials and Methods: Between 2008 and 2009, 61 women with early breast cancer received radiotherapy, after conservation surgery in our institution. Women were randomized in two groups based on the radiotherapy regime. Group A received conventional radiotherapy with 50 Gy/25f/5w plus boost 10 Gy/5#/1w, whereas Group B received hypofractionated radiotherapy with 43.2 Gy/16#/22d plus boost 10 Gy/5#/1w. All patient underwent clinical assessment and skin toxicity was monitored and recorded before beginning of radiotherapy, during teratment (7th and 21st day), day of treatment completion, 1 month and 3 months following treatment completion. Medical photographs were taken during the above patients visits.

Results: our results showed no significant difference between the two groups with regards to radiation-induced skin toxicity. Incidence of skin toxicity was 16% and 18% in Group A and in Group B respectively. In more detail, 5 patients in Group A developed Gr 1 RTOG skin toxicity, from whom 2 developed Gr 2 toxicity during treatment. In Group B, 7 patients presented with Gr1 toxicity during treatment, fro whom 3 developed Gr2 toxicity.

Conclusions: the use of hypofractionated radiotherapy causes minimal toxiciy to the skin, within the acceptable limits. Therefore it consists a safe treatment option for breast cancer patients eligible for this type of treatment.

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Regret and Quality of Life After Mastectomy: We Need to Do Better

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Background: Mastectomy represents a deep burden for women with breast cancer, but it is still required in approximately 20−25% of cases. Very little is known on the psychological consequences over time and quality of life (QOL) of women so treated, with or without breast reconstruction (BR).

Materials and Methods: 709 patients underwent mastectomy with or without BR between 2001 and 2011 at one institution. Among 468 surviving patients a 60-queries QOL questionnaire on personal issues including some EORTC QLQ C30 items was presented either by email, letter or telephone interview. Logistic and linear regression and nonparametric Wilcoxon tests were used for statistical analyses on the functioning scales.

VARIABLE (A vs. B)	A (%)	B (%)	P value
Age (<50 vs. >50)	54/62 (87)	112/266 (42)	<**0.0001**
Civil Status (widow vs. not)	18/75 (24)	148/253 (58)	**0.0001**
Income (High vs. Lower)	10/14 (71)	145/314 (46)	<**0.0001**
Education (College or higher vs. lower)	118/172 (69)	48/156 (31)	<**0.0001**
Body Mass Index (<25 vs. >25)	48/156 (31)	118/172 (69)	**0.0006**
Co-morbidity (0 vs. >1)	98/151 (65)	68/177 (38)	<**0.0001**
Tumor Stage (0−1 vs. >1)	57/112 (51)	108/216 (50)	0.8
Chemotherapy (Yes vs. No)	119/189 (63)	47/138 (34)	<**0.0001**
Radiotherapy (Yes vs. No)	31/83 (37)	135/244 (55)	**0.005**
Plastic Surgery Consult (Yes vs. No)	136/166 (82)	30/161 (19)	<**0.0001**

Results: 328 patients participated, while 140 declined invitation or were unavailable (30%). Median age was 63 years (30−93). 73% of patients had either stage I or II disease. 168/328 patients (51%) underwent immediate BR. Of the remaining patients only 7/160 (4%) proceed to delayed BR. Younger women had significantly worse Emotional Functioning (EF) and Social Functioning (SF) ($p < 0.001$), independently of tumor stage, and BR or psychological intervention improved that ($p = 0.02$). SF was also worsened by chemotherapy ($p = 0.03$). Cognitive Functioning (CF) was independent of age, BR, stage or adjuvant therapies. Longer time from intervention was associated with decreased SF ($p = 0.02$), but not EF or CF. Body Image and Sexual Functioning improved with BR ($p < 0.03$), and age of patients was a strong co-variable ($p < 0.001$). Immediate BR was correlated with several variables (Table).

68/328 patients (21%) regret their decision or were disappointed with their choice regarding BR.

Conclusions: Younger patients with breast cancer suffer a worse impact on their EF and SF after mastectomy, both of which are improved by BR. Reconstructing the breast at the time of mastectomy has a significant impact on Body Image and Sexual Functioning. A pre-operative plastic surgeon consultation improves rate of immediate BR, while delayed reconstruction is rarely adopted. Some 20% of patients are disappointed or regret their final decision on BR. We need to improve our management in consideration of these findings.

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Reirradiation and Hyperthermia for 36 Radiation-associated Sarcomas of the Chest Wall

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Background: Radiation-Associated Sarcoma (RAS) is a rare entity with a poor prognosis. As a result of a rising prevalence of breast cancer and an increasing percentage of patients treated with irradiation as part of multidisciplinary treatment, an increase of RAS of the breast or chest wall is to be expected.

Materials and Methods: Between 2000 and 2011, 36 patients with RAS in the thoracic region were treated in Erasmus Medical Center (21), the Academic Medical Center (10) and the Institute Verbeeten (5) with reirradiation and hyperthermia (RTHT). In 11 patients this treatment was given adjuvantly after resection, and in 25 for macroscopic disease.

Results: Median survival after diagnosis of RAS was 16 months (range 2–204). In 11 patients the RTHT was performed adjuvantly after macroscopic complete resection and these were not evaluable for response. Response rate in the remaining 25 patients was 76% (13 CR, 6 PR). Fourteen patients remained in local control until death (7 patients) or last follow up (8 patients) for 1.5−68 months.

Conclusion: In contrast to the general assumption that RAS is radio-resistant, the combination of reirradiation and hyperthermia appears to provide a high response rate and for a significant number of patients long lasting local control. This warrants further investigation.

	n	Mean tumor size at RTHT (mm)	CR rate	PR rate	Local control till death or last FUP (%)	Median survival after RTHT (months)
RTHT	25	122	52%	24%	8/25 (32%)	7
Resection plus RTHT	11	0	–	–	7/11 (64%)	10

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Fat Necrosis Frequency and Evaluation After Oncoplastic Surgery

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Introduction: Four to twenty-five percent of patients treated with breast conserving surgery and radiotherapy for breast cancer develop fat necrosis. Fat necrosis after breast conserving surgery is minor complication, but one that can induce anxiety, inconvenience and concerns about cancer recurrence to the breast cancer surgeon and the patients. We wish to assess the frequency and clinical significance of fat necrosis resulting from oncoplastic BCS.

Methods: The authors retrospectively reviewed the overall incidence of fat necrosis and the correlation of several risk factors in 197 patients underwent oncoplastic breast conserving surgery between Jan. 2007 and Jan. 2010. Radiotherapy was performed after surgery for all patients. Identification of fat necrosis was based on physical exam, ultrasound image, mammography, or PET/CT. Statics analysis was performed to identify risk factors for fat necrosis. The following risk factors were studied; age, body