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COMBINED WIRA-HYPERThERmIA AND REPEAT RE-IRRADIATION (RE-RE-RT) IN THE MANAGEMENT OF RE-RECURRENCES OF LOCALLY RECURRENT BREAST CANCER

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Abstract Text: Introduction: Re-irradiation (re-RT) combined with superficial hyperthermia (HT) has proven efficacy in the treatment of pre-irradiated locally recurrent breast cancer. Especially in case of lymphangiosis carcinomatosa and large-sized lesions re-recurrences after CR respectively new local progression after PR are relatively frequent. In this palliative situation, the combined wIRA-HT and RT of 20 Gy total dose (Notter et al., IJH 2017) has shown extremely low toxicity and thereby allows for a repeat re-irradiation (re-re-RT) using the same combined RT/HT protocol.

Methods: Data from 113 patients (167 regions) with pre-irradiated macroscopic locally recurrent breast cancer treated from September 2009 to April 2018 with wIRA-HT + hypofractionated re-RT (5 x 4 Gy, 1x/week) are analyzed. 29 patients with lesions $\leq 10\text{cm} \times 10\text{cm}$ had 23 CR and 6 PR, 36 patients with ipsilateral lesions $> 10\text{cm} \times 10\text{cm}$ had 19 CR and 16 PR, 27 patients with lesions beyond the homolateral chest wall had 10 CR and 16 PR, 21 patients with additional extensions to the back had 18 PR. After CR 19/52 patients showed 32 re-recurrences, after PR 32/56 patients showed 56 new local progression. 40/51 re-recurrent patients were re-treated with the same protocol (HT + re-re-RT).

Results: No acute and chronic HT- or RT-related toxicities $>$ grade 2 were noted in patients treated with re-re-RT of 20 Gy total dose combined with thermography-controlled wIRA-HT. Grade 2 toxicity was restricted to new teleangiectasia in 2 patients. Although all of the re-recurrences were never controlled completely, some obtained a long-lasting stabilization (even for years).

Conclusion: Considering the extension of the recurrences and the repeated re-re-RT + HT in 40 patients the treatment schedule showed a high efficacy to achieve palliation without severe toxicity. Even several applications within the same region were tolerated well.