

CAN RADIATION INDUCED SARCOMA OF THE CHEST WALL BE TREATED WITH RE-IRRADIATION AND HYPERTHERMIA?

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Background: Radiation induced sarcomas occur in about 0.5 per thousand irradiated patients, are often angiosarcomas, are believed to bear an extremely poor prognosis and to be radiation resistant. A series of eight radiation induced sarcoma's of the chest wall, treated by re-irradiation and hyperthermia in the Academic Medical Centre is presented.

Patients and methods: From 1984 to 2007 eight patients were referred. Seven women, one man, mean age 71 years (48-82). Mean interval between the previous cancer (breast/Hodgkins disease) and the sarcoma was 74 months (19-132). Five were angiosarcoma, three not otherwise specified (NOS). One patient was metastasized at diagnosis, the others were referred after one (3 pts) two (2 pts) or three (1pt) attempted resections or systemic treatment (1 pt), with a mean interval since diagnosis of 6.5 months (3-16). One patient had no apparent tumor at referral. The others a mean largest tumor size of 12 cm (1-25), usually an area of multiple nodules. Radiotherapy was applied to the tumour area plus a generous margin. One patient received 6 fx of 2.5 Gy in 2 weeks, one received one fraction of 6 Gy (and refused further treatment), the other six patients 8 fx of 4 Gy in 4 weeks. Hyperthermia was administered with the 434 MHz AMC wave guide system, aiming at 41 °C for an hour, at least once a week.

Results: One patient stopped treatment after one session and is unevaluable for response. One patient had progression shortly after treatment. Two patients had a minor/partial remission during treatment and too short follow-up, and four had a complete response. One patients is alive without disease after 29 months. One patient is well with regressing tumour shortly after treatment. One patient died of suicide two weeks after start of treatment, one died of unknown cause after two months, and three after 6,8,and 8 months respectively of pleuritis, believed to be sarcomatous. One patient is alive with pulmonary metastases and thrombo embolic complications.

Discussion: It is difficult to draw conclusions from a small and heterogeneous patient cohort. With four complete and one partial remission in 7 evaluable patients, and only one patient with documented local progression it may be concluded that the tumour is sensitive to irradiation plus hyperthermia. Survival is poor due to fast hematogeneous spread. The only patient alive and free of disease for longer than two years is the patient in whom adjuvant reirradiation plus hyperthermia was performed shortly after first resection.