

CHEMORADIATION COMBINED WITH DEEP REGIONAL HYPERTHERMIA AFTER TRANSURETHRAL RESECTION FOR T1-2N0M0 BLADDER CANCER: ANALYSIS OF ACUTE SIDE EFFECTS

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Purpose

To evaluate the contribution of additional deep regional hyperthermia to acute toxicity in a well established chemoradiation protocol for T1-2N0M0 bladder cancer.

Patients and Methods

Between 11/2003 and 11/2005, 30 patients were enrolled for this phase II-trial. Patients received external beam radiation with a median total dose of 57.6 Gy (range; 54 - 61.3) with 10 MV linear accelerator photon beams. The median overall treatment time was 45 days (range; 41-56). Ninety percent of the patients simultaneously received chemotherapy for radiosensitization (mostly Cisplatin and 5-FU) during the first and fifth irradiation week. Deep regional hyperthermia was applied on a weekly basis with the BSD 2000•3D/PC system, either with a Sigma Eye- or Sigma 60-applicator. The median number of hyperthermia courses was 5 (range; 1-7). The median CEM43°C for the whole group was 31.2 min (range; 0.1 – 163.5).

By CEM43°C, patients were grouped in a low dose hyperthermia group (n=15; median CEM43°C: 14.9 min) and a high dose hyperthermia group (n=15; median CEM43°C: 63.9 min). Acute toxicity scoring for both groups was performed with the Common Terminology Criteria for Adverse Events (CTCAE), Version 3.0.

Results

Acute toxicity for the whole group was moderate. Grade 3 GI-toxicity was found in one, and Grade 3/4 hematotoxicity in six patients. No significant influence of the intensity and thermal dose of deep regional hyperthermia (low dose vs. high dose group) on acute toxicity was found.

Conclusions

In our well established protocol for bladder conserving therapy with simultaneous chemoradiation after transurethral resection for T1-2N0M0 bladder cancer, the additional use of deep regional hyperthermia did not impact or increase acute side effects.