

# Deep-hyperthermia in treatment of muscle invasive bladder cancer for elderly patients: A single center`s first experience

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## I. INTRODUCTION

Radical surgery is standard therapy and combined chemotherapy (CT) + irradiation (RT) +/- hyperthermia (HT) after TUR-B is an established treatment option for patients with muscle invasive bladder cancer (MIBC) [1-5]. For patients who are not suitable for surgery or trimodality therapy (CT + HT + RT), treatment options are limited. In a pilot protocol, we treated between 11/12 - 05/14, a total of 7 patients aged 74 - 87yr (med. 83yr) using bimodality therapy (RT + HT), 4 - 6 weeks after TUR-B.

## II. METHODS

All patients were MIBC, stages  $\geq$  T2M0. Patients were excluded from radical cystectomy or concurrent chemotherapy due to co-morbidity. They were discussed at our multidisciplinary tumor boards. Patients received 48-50 Gy (16 x 2.5 Gy or 12 x 3 Gy to bladder and pelvic lymphatics (CTV) along with a boost of 4 x 3Gy to the gross tumor volume (GTV) for single tumor, or 4 x 2.5 Gy to whole bladder, for multiple tumors. 4 HT treatments were given once weekly before RT. A temperature of 41-43° C was maintained for 60 minutes by *in vivo* online thermometry. Repeated follow-up (F/U) included cystoscopy / urine cytology at 6 weekly / 6 monthly by the referring urologist.

## III. RESULTS

All 7 patients completed bimodality therapy. At a median F/U of 14 months, all patients have a sustained complete remission with preserved bladder function. RT/HT was well tolerated. Acute side effects included mild discomfort during HT sessions and temporary dysuria. No grade III/IV acute / late toxicities were noted.

## IV. CONCLUSION

The initial results of thermoradiotherapy in MIBC are encouraging. This could be considered for functional bladder preservative curative treatment in elderly patients having MIBC. The trial is ongoing and intends to recruit further patients to confirm these observations.

## REFERENCES

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