For high-risk and very high-risk prostate carcinoma, IMRT plus regional hyperthermia was feasible with acceptable toxicity, and further studies to assess the efficacy of this combined treatment are warranted.

**EP-1583** An endorectal balloon reduces patient-reported GI toxicity in postop radiotherapy of prostate cancer

T. Hölscher, A. Rentsch, S. Zastrow, M.P. Wirth, A. Ahmad, M. Krause, E.G.C. Troost

TU Dresden- Med. Faculty Carl Gustav Carus, Department of Radiation Oncology, Dresden, Germany

TU Dresden- Med. Faculty Carl Gustav Carus, University Cancer Center UCC, Dresden, Germany

TU Dresden- Med. Faculty Carl Gustav Carus, Department of Urology, Dresden, Germany

OncoRay - National Center for Radiation Research in Oncology- Faculty of Medicine and University Hospital Carl Gustav Carus- Technische Universität Dresden, Helmholtz-Zentrum Dresden - Rossendorf, Dresden, Germany

**Purpose or Objective**

In dose-escalated radiotherapy (RT) of prostate cancer, late rectal toxicity is one of the dose-limiting factors. In primary RT, an endorectal balloon (RB) has been shown to reduce the dose to parts of rectum and anus, stabilize prostate position and may therefore be a means to improve therapeutic ratio. In postoperative radiotherapy, the effect of RB is less well-known, in general a dose of <70 Gy is applied and therefore no clinical outcome data regarding the benefit of a RB is available.

The aim of this retrospective study was to assess the patient-reported late rectal toxicity (GItox) 3, 12, and 24 months after RT in postoperative prostate cancer patients receiving a daily RB, compared to an earlier cohort, which was treated without RB.

**Material and Methods**

We identified all patients who received postoperative radiotherapy (66 Gy in 33 fractions) after radical prostatectomy, had no nodal or distant metastases and at least one follow-up visit. In those treated between 2008 and 2013, no RB was applied whereas between 2014 and 2016, a RB was routinely applied. All patients were followed with the same set of questionnaires and outpatient visits. Results where compared and analysed by Chi²-Test (SPSS 23.0).

**Results**

In total, 433 patients were retrieved, of whom 194 were treated with and 239 patients without RB. The patients were well balanced according initial NCCN risk and other confounding factors. The maximum patient reported GItox in the first 2 years after RT was low: 75.5%, 20.8%, 3.7%, 0% reported no, grade 1 (G1), G2 and G3 GItox, respectively. The prevalence of rate of G1+ GItox was 16.5%, 15.1% and 18.0% at 3, 12, and 24 months, respectively.

No GItox within 2 years occurred in 71.1% patients without RB versus 80.9% with RB. G1+ GItox was reported in 28.5% without RB and in 19.1% with RB. G2 GItox was reported by 13 (5.4%) patients without and by 3 (1.5%) with RB. These results are statistically significant at p=0.025.
Purpose or Objective
Dose escalation in prostate cancer trials showed an increased toxicity. Low alpha-beta ratio of prostate cancer make suitable to escalate dose by extreme hypofractionation. Stereotactic Body Radiation Therapy (SBRT) in prostate cancer is a novel precise strategy which allows delivering high doses per fraction with high accuracy to the prostatic gland in a low number of fractions. In order to evaluate the feasibility and toxicity of two regimens of hypofractionated stereotactic body radiation therapy self-reported quality of life (QOL) measures were obtained.

Material and Methods
Two prospective phase I-II studies were approved by our institutional review and ethics board. Inclusion criteria were: Trial1) T1-2N0M0, PSA ≤ 20 ng/mL, and IPSS 0 –7. Dose 85 GyEqD2. Trial 2) T3aN0M0 were: Trial1) T1-2N0M0, Gleason Score 6 –7, PSA ≤ 20 ng/mL, and IPSS 0 –7. Dose 85 GyEqD2. Hormonal-therapy was prescribed according to age was 70.2 years. Median follow-up was 18 months (3 –63). Twenty-two patients were included in trial 1 and 18 in trial 2. According to D’Amico risk classification for trial 1), 3/22 patients were low-risk and 19/22 were intermediate risk, for trial 2) 18 patients were high risk. All patients completed the treatment as programmed with good tolerance. No toxicity greater than grade 2 was observed. EPIC urinary values were significantly higher at 6 (96.57) and 12 months (91.59) for SBRT (5x7) vs trial 2 (81.26 and 80.49). No differences were seen in EPIC bowel scores. EPIC hormonal was higher at 6 and 12 months in the first group 85.09 and 81.57 vs 64.09 and 76.14 in the 9 Gy boost patient’s trial. Conclusion Both SBRT regimes with FFF beams for low-intermediate-risk and high risk prostate cancer are feasible and well tolerated in selected patients. Differences in EPIC hormonal QLQ measures are related to prolonged hormonal treatment in high risk patients. EPIC values related to radiation treatment are not different. Long-term follow-up is needed for assessment of late toxicity and outcomes.

Material and Methods
We reviewed the charts of all patients diagnosed with high-risk prostate cancer after radical prostatectomy who were selected for PORT and treated with adjuvant radiotherapy (n= 242, 43.1%) or early salvage RT (n= 320, 56.9%) between 2002 and 2011. 111 patients (19.8%) who underwent WPRT were compared with 441 patients (80.2%) who had prostate bed radiotherapy only (PBRT). We examined associations between patient, tumor, and treatment characteristics and biochemical progression-free survival (bPFS), disease-free survival (DFS) and overall survival (OS) with uni- and multivariate analyses using Cox models. Acute and late toxicities were also compared between the two groups.

Results
We found a significantly lower rate of acute G2+ gastrointestinal (GI) toxicity with PBRT than with WPRT with neither difference in acute G3+ nor on late GI toxicity. Regarding genitorinary (GU) toxicity, we found no difference in acute G2+ or G3+ toxicity but rates of late G3+ GU toxicity were significantly lower in PBRT (1.55%) than in WPRT patients (p= 0.035). With a median follow-up of 65.2 months [95% CI: 62.8 - 67.9], a deleterious effect of WPRT was observed on OS (HR=3.27 [95% CI: 1.55 - 6.87], p=0.009). We found no impact of WPRT on bPFS (HR=0.79 [95% CI: 0.49 - 1.25], p=0.31) or DFS (HR=0.97 [95% CI: 0.63 - 1.49], p=0.88). Only a positive surgical margin was an independent prognostic factor for better bPFS. Age≥63 years and WPRT (HR=2.86