PO-0734 The effect of TAB duration and pelvic RT in prostate cancers with gleason score 8-10: TROG study

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Purpose or Objective

We performed a multi-institutional pooled data analysis as Turkish Radiation Oncology Group (TROG) to evaluate the efficacy of elective pelvic RT and TAB duration in prostate cancer patients with Gleason score (GS) of 8-10 treated with three dimensional conformal radiotherapy (3DCRT) or intensity modulated radiation therapy (IMRT).

Material and Methods

A total of 641 eligible prostate adenocarcinoma patients from 11 TROG centers, treated with 3DCRT or IMRT between 1997 and 2013 were evaluated in this study. The eligibility criteria were as follows; T1-3N0M0 according to AJCC 2010 staging system, Gleason score of 8-10, a total RT dose of at least 70 Gy with 3DCRT or IMRT, at least 24 months of follow-up for all surviving patients. TAB duration, elective pelvic RT, T stage, GS, perineural invasion (PNI), total RT dose, RT technique, percent positive core biopsy (PPCB), age, and pre-biopsy PSA level were analyzed as potential prognosticators. ASTRO Phoenix definition was used for biochemical failure (PSA nadir+2 ng/dL). Log-rank test was performed for univariate analyses (UVA), and Cox-regression analysis was used for multivariate analyses (MVA).

Results

Median follow-up was 6 years. The median prebiopsy PSA level was 21.3 ng/dL, the median TAB duration was 24 months, and the median total RT dose was 75 Gy. Fifty-one patients were died of prostate cancer, whereas 62 patient died due to other diseases. PSA failure was detected in 171 cases, and distant metastases developed in 99 patients. Five and 10 year biochemical relapse free survival (BRFS) rates for entire cohort were 76.8% and 61.1%, respectively. UVA showed that higher GS, higher PPCB, advanced T stage, PNI presence, elective pelvic RT, younger age, and higher pre-biopsy PSA level were significant poor prognostic factors for BRFS. The duration of TAB (≤12 months vs >12 months), total RT dose and RT technique did not have any significant impact on BRFS. MVA revealed that T stage (p=0.002), GS (p=0.046), age (p=0.01), PNI (p=0.04) and PPCB (p=0.001) were independent statistically significant predictors for BRFS. We did not found any significant effect of TAB duration (≤12 months vs >12 months) or elective pelvic RT on BRFS in MVA.

Table 1. The clinical and therapeutic characteristics of 341 eligible prostate cancer patients.

	Number of patients	%
T Stage		
T1	32	5
T2	357	55.7
T3	252	39.3
Gleason Score		
8	335	52.3
9	276	43.1
10	30	4.7
Pelvic Radiotherapy		
Absent	330	51.5
Present	311	48.5
TAB duration		
≤12 months	133	20.7
>12 months	489	76.3
No TAB use	19	3

Conclusion

In this multi-institutional pooled data analysis, the use of elective pelvic radiotherapy did not improve BRFS in high-risk prostate cancer patients. Similarly, TAB use of more than 12 months in this sub-group did not have any positive impact in BRFS. The optimal duration of TAB in the era of dose escalated prostate IMRT should be determined in further randomized trials to minimize the side effects of 2-3 years of androgen deprivation.

PO-0735 HDR-brachytherapy or SBRT for extreme hypofractionation in prostate cancer - long-term results

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Purpose or Objective

Hypofractionated radiotherapy for prostate cancer is increasingly used in daily practice because of radiobiological, economic and logistic advantages. Long-term results are still scarce. Here we report on late toxicity of 2 extreme hypofractionation regimens

Material and Methods

Between 2007 and 2015, 329 patients with low and intermediate risk prostate cancer (T1a-2b, Gleason score 6-7, PSA <20 Gy) were treated with either High-Dose-Rate (HDR) brachytherapy (monotherapy) delivered in 4 fractions of 9.5 Gy in 36 hours (206 patients) or with stereotactic body radiotherapy (SBRT) using the Cyberknife (CK), delivering 4 fractions of 9.5 Gy in 4 consecutive days (123 patients). For both regimens, patient follow-up after treatment was performed at 2, 4, 8 and 13 weeks, and at 6, 9, and 12 months in the first year, and 6 monthly thereafter. Validated patient's self-assessment RTOG-EORTC questionnaires (PSAQ) were routinely sent to all patients according this schedule and used to report on late toxicity. We compared late grade ≥2 toxicity. Moreover, for gastrointestinal (GI) toxicity we analysed stool frequency ≥6/day, incontinence, rectal bleeding and pain, and for genitourinary (GU) day frequency ≥16, night frequency ≥4, haematuria, incontinence and dysuria.

Results

Median FU was 36 months with a range of 6-96 months (HDR 36 (6-96), CK 36 (6-84)). There were no significant differences in patient's characteristics between the 2 groups. Based on PSAQ, late grade 2 and 3 GU toxicity was reported in 26.8% and 8.1% of patients in de CK group versus 22.3% and 6.3 respectively (grade ≥ 2: p=0.01, grade 2: p<0.001, grade 3: p=0.35).

Late grade 2 GI toxicity was reported in 7.3% and 6.8% of patients (p=0.98) in the CK and HDR groups, respectively. Late grade 3 GI toxicity was not reported uit the PSAQ.