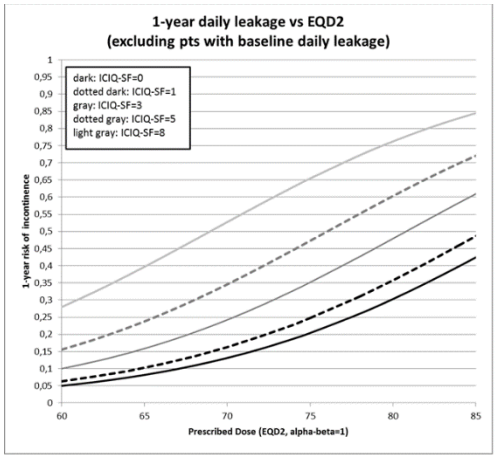
few baseline ICIQ-SF values: ORs for EQD_1 and ICIQ-SF were 1.11 (p=0.008) and 1.28 (p=0.002) respectively.

Conclusion

Baseline ICIQ-SF is the major predictor of 1-year INC. Despite the short follow-up, a dose-effect was found for objective INC when excluding pts with symptoms at baseline: the dose relationship was modulated by mild-moderate baseline symptoms. The association between EQD2_1 and INC (not found for EQD2_5, p>0.30) is a confirmation of the previously reported high sensitivity to fractionation for INC, suggesting extreme caution in using moderate hypo-fractionation it in the post-operative setting.



PO-0838 Castrate testosterone predicts biochemical relapse free survival in non-metastatic prostate cancer

G. Ozyigit[1], P. Hurmuz[1], D. Yuce[2], F. Akyol[1]
[1]Hacettepe University- Faculty of Medicine, Department of Radiation Oncology, Ankara, Turkey ; [2]Hacettepe University- Faculty of Medicine, Department of Preventive Oncology, Ankara, Turkey

Purpose or Objective

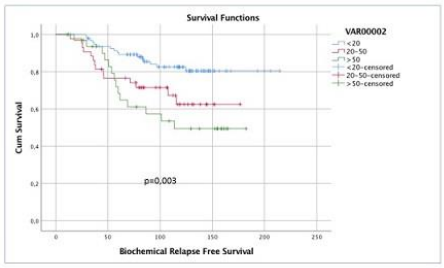
We evaluated the effect of two different castrate testosterone levels, <50 and <20 ng/dL, on biochemical relapse free survival (BRFS) in patients with non-metastatic intermediate and high risk prostate cancers (PC) receiving definitive radiotherapy (RT) and androgen deprivation therapy (ADT).

Material and Methods

We have a prospective treatment protocol for the definitive treatment of PC patients which was approved by the institutional ethical review board. Herein we included subset of patients with intermediate and high risk disease according to D'Amico risk group stratification. Between April 1998 and February 2011 173 patients with median age of 69 (range, 50-82 years) were treated. Radiotherapy was delivered by either three dimensional conformal technique (3DCRT) to a total dose of 73.4 Gy at the ICRU reference point or intensity modulated radiotherapy technique (IMRT) to a total dose of 76 Gy with daily fraction dose of 2 Gy. All the patients received 3 months of neoadjuvant ADT followed by RT and additional 6 months of ADT. ADT was delivered in the form of total androgen blockade (TAB): GnRH agonist plus antiandrogen. Testosterone levels were measured at each clinical follow-up visits. ASTRO Phoenix definition (nadir PSA+2 ng/dl) was used to define biochemical relapse. All patients should have at least 12 months of follow up.

Results

Median follow up duration was 125 months. Median initial PSA level was 14.2 ng/dL (range, 2-100 ng/dL) and median GS was 7 (range,3-9). The characteristics of the patients are shown in **Table 1**. All of the patients received 9 months of planned TAB. Nighty six patients (56%) had castrate testosterone level < 20ng/mL and 139 patients (80%) had castrate testosterone level < 50 ng/mL. Median testosterone recovery time after TAB cessation was 6 months (range, 6-30 months). Both cutoff values are valid at predicting BRFS. However patients with castration testosterone value <20 ng/dL have significantly better BRFS compared to other patient groups (p=0.003) **(Figure 1)**. When we compare two cutoff values using receiver operating characteristic curve (ROC) analyses, it was found that using 20 ng/dL is better than 50 ng/dL in predicting the BRFS (AUC= 0.63 versus 0.58, respectively).



Characteristics	Number (%)
AJCC 2010 T stage	
T1	3 (2%)
T2a	74 (43%)
T2b	14 (8%)
T2c	16 (9%)
T3a	49 (28%)
T3b	17 (10%)
Gleason score (median)	7 (3-9)
Initial PSA (median)	14 ng/dL (2-100 ng/dL)
D'Amico risk group	
Intermediate	52 (30%)
High	121 (70%)
Perineural invasion	
Absent	103 (60%)
Present	56 (32%)
Unknown	14 (8%)
Percent positive core biopsy percentage	
?50 %	
>50%	76 (44%)
Unknown	59 (34%)
	38 (22%)
Radiotherapy dose	
70 Gy	145 (84%)
76 Gy	16 (16%)

Conclusion

Castration testosterone level of less than 20 ng/dl achieved after primary RT plus ADT is associated with better BRFS. Using castration cut off value of 20 ng/dL is better in estimating the BRFS compared to 50 ng/mL. Further studies using current standard of care of high dose IMRT and longer ADT duration might support these findings.

PO-0839 Correlation of recalculated-dose based on CBCT and toxicity in postoperative prostate cancer VMAT

P. Buranaporn[1], T. Jaikuna[1], P. Dankulchai[1]
[1]Faculty of Medicine Siriraj Hospital- Mahidol University, Division of Radiation Oncology- Department of Radiology, Bangkok, Thailand

Purpose or Objective

To study relationship between GI and GU toxicity and estimated actual volume using recalculated-dose based on CBCT of deformable organs, rectum and bladder, receiving VMAT for postoperative prostate cancer patients.

Material and Methods

115 postoperative prostate cancer patients treated with VMAT technique from 2014-2017 were studied retrospectively. Rectum and Bladder were delineated on each CBCT image. Estimated actual dose on CBCT available fraction was recalculated on each CBCT image based on CBCT-calibration curve and was used as a