Purpose: The Cancer of the Prostate Risk Assessment Post-surgical Score (CAPRA-S) can predict for recurrence and mortality post radical prostatectomy (RP) with a c-index > 0.70. We evaluated its predictive value for patients treated with RP followed by subsequent external beam radiotherapy (EBRT).

Methods and Materials: A total of 373 patients were identified in the institutional database who were treated with EBRT between January 2000 and June 2015. Follow up and complete CAPRA-S score were available for 334 (89.5%) patients. CAPRA-S scores were sorted into previously defined categories of low-score (0-2), intermediate- (3-5), and high-risk (6-12). Time to biochemical recurrence (BCR) was defined as PSA ≥ 0.20 ng/mL after EBRT. Survival analyses were performed using the Kaplan-Meier method and comparisons were made using the log-rank test.

Results: Median age at time of EBRT was 64 years (IQR: 59-68). Median time from RP to EBRT was 18 months (IQR: 8-36). Median dose was 66 Gy (range 64-70 Gy) and median follow up following EBRT was 48 months (IQR: 28-78). In 65%, the PSA before EBRT was ≤ 0.5 ng/mL. Twenty-two (6.6%) patients died during follow up, nine from metastatic prostate cancer. 84.3% of patients were classified as intermediate- or high-risk in the CAPRA-S grouping system. Concomitant androgen deprivation therapy (ADT) was administered in 36% for a median of nine months. CAPRA-S as a categorical variable (low-, intermediate-, high-risk group) was predictive of time to BCR (p < 0.001) and time to palliative ADT (p = 0.017) and borderline significant (p = 0.058) of overall survival. On multivariate analysis, the CAPRA-S was predictive of time to BCR only (low-risk versus intermediate-risk; HR 0.14, 95% CI 0.043-0.48, p = 0.001). When looking only at the CAPRA-S high-risk group, overall survival at five and 10 years were 90% and 83%, respectively. After five years, 62% had not received ADT for recurrence and at 10 years, 47%. The last PSA value before EBRT as a continuous and grouped variable proved highly significant in predicting all outcomes tested, including OS (p ≤ 0.002).

Conclusions: We present the first Canadian data on post-operative EBRT. Together with the PSA before EBRT, CAPRA-S is a useful tool to predict time to palliative ADT, and was borderline significant for OS. Our results emphasize the importance of a low PSA before EBRT and the fact that EBRT is effective in avoiding ADT even in patients with several high-risk features.

50 AN EVALUATION OF COMPETING CAUSES OF DEATH IN PATIENTS TREATED FOR SEMINOMA WITH RADIATION THERAPY

Rima Pathak1, Scott Tyldesley2, Gaurav Bahl1

1British Columbia Cancer Agency, Abbotsford, BC
2British Columbia Cancer Agency, Vancouver, BC

Purpose: To review the long-term outcomes and evaluate the competing causes of death in patients treated with radiation therapy for Seminoma in British Columbia.

Methods and Materials: In total 538 patients diagnosed with Seminoma, and treated with radiation therapy (RT), between January 1990 and January 2010, were identified from the BC Cancer Registry. Median age was 38 years (range: 19 - 77). The median RT dose was 25 Gy (range: 14 Gy - 40 Gy). Most common RT fractionations used were: 25 Gy/15 (n = 260), 25 Gy/20 (n = 119), 30 Gy/20 (n = 90). Time to testicular-cancer mortality (TCM), second cancer related mortality (SCM), cardiovascular mortality (CVM), and all-cause mortality (ACM) were calculated from diagnosis date. Survival estimates were calculated using the Kaplan-Meier method. Competing-risks analysis was used to evaluate the Cumulative Incidence of the mortality outcomes.

Results: After a median follow up of 18 years, 57 patients had died, and the 15-year overall survival was 90.8%. Thirteen patients died from progressive testicular cancer, 12 from Second Cancers, 13 from cardio-vascular disease, seven from accidents and falls, three treatment related toxicity, and nine from other causes. The cumulative rates of ACM at 10, 15, and 20 years were 5.8%, 9.2%, and 11.2%, respectively. All testicular cancer related mortality occurred within the first six years, and the 10- and 15-year rates of TCM were both 2.41%. Cardiovascular and second cancer-related mortality rates increased with time: 10-year CVM = 1.12%, 15-year CVM = 2.36%, 20-year CVM = 2.66%; 10-year SCM = 0.94%, 15-year SCM = 1.84%, and 20-year SCM = 2.53%.

Conclusions: Long-term outcomes for patients with Seminoma continue to be excellent. At 20 years post-radiation therapy, the mortality rate from second cancers (2.53%) and cardiovascular disease (2.66%) is similar to the testicular cancer-related mortality (2.41%).

51 PREVENTIVE EFFECT OF MALVA ON URINARY TOXICITY AFTER RADIATION THERAPY IN PROSTATE CANCER PATIENTS: A MULTICENTRIC, DOUBLE-BLIND, RANDOMIZED CLINICAL TRIAL

Amir Shahram Yousefi Kashi1, Bahram Mofid 1, Hossein Rezaiezadeh1, Amir Mohammad Jaladat1, Fatemeh Atarzadeh2, Reihane Moeini1, Abbas Motevalian4, Ahmad Mosalaei1, Farshid Farhan1, Afshin Rakhshe1

1Shahid Beheshti University of Medical Sciences, Tehran, Iran
2Tehran University of Medical Science, Tehran, Iran
3Shiraz University of Medical Sciences, Shiraz, Iran
4Iran University of Medical Sciences, Tehran, Iran

Purpose: For patients receiving external beam radiation therapy (EBRT) after radical prostatectomy as adjuvant treatment or patients receiving EBRT as definitive treatment, partial irradiation of the urinary bladder is common. Many of such patients experience some degree of radiation-induced cystitis during or after EBRT. There is currently no efficient treatment for preventing radiation cystitis. The aim of this study was to evaluate the effectiveness of one of the safe mucilaginous herbs (Malva) in preventing radiation-induced dysuria in patients who are undergoing EBRT for prostate cancer.

Methods and Materials: From April 2013 to August 2014, 68 patients were randomized into two groups using four block randomization, 34 to the drug (Malva) group and 34 to the placebo group. They received Malva (odds ratio = 2.70 for dysuria). After two weeks, the changes in the VPSS and dysuria severity score were compared. Between the two groups in the study using repeated measures analysis of variance (ANOVA) and t-tests.

Results: The median age of the 68 patients was 66. Twenty-one of 27 patients in the control group (77.7%) suffered from dysuria, while dysuria was detected in 23 of 33 patients (69.6%) who received Malva (odds ratio = 2.70 for dysuria). After two weeks, four weeks, and six weeks of treatment with Malva, dysuria due to EBRT was milder in the treatment group than in the control group, and the differences were statistically significant (p = 0.005, p = 0.004, p = 0.001, respectively).

Conclusions: To the best of our knowledge, our study is the first study to assess the protective effect of a mucilaginous herb (Malva) against urinary toxicity induced by EBRT. The positive results of this study warrant further studies in this field.