of acute G2 GU toxicity was about 3 times if the prostate volume is ≥ 80 cc (p-value 0.004; 95% CI: 1.05 - 9.5). In the adjusted prediction model using the logistic regression, the probability of acute G2 GU toxicity was about 60% with the same prostate volume cut-off (p-value 0.001; 95% CI: 0.13 - 0.46), with an attitude to develop a moderate toxicity in the first 3 weeks from the beginning of treatment. In the late setting, a trend to significance (p=0.076) to develop an acute GU toxicity ≥ G1 was found for bladder V60 Gy > 15%.

Conclusion: In moderate hypofractionation in 30 fractions for prostate cancer, a prostate gland volume greater than 80 cc resulted as predictor of moderate acute GU toxicity.

EP-1336
Hypofractionated salvage radiotherapy after radical prostatectomy
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Purpose or Objective: We have created and implemented in our department a new scheme of hypofractionated salvage volume modulated arc therapy with simultaneous integrated boost for patients with recurrence of prostate cancer (PCa) after radical prostatectomy (RP). The aims of our research are to evaluate toxicities and biochemical response rate.

Material and Methods: Patients with recurrence of PCa after RP have been treated by hypofractionated (HF) salvage radiotherapy (SRT). Characteristics of HF radiotherapy were as follows: the prescribed dose to the regional lymphatic nodes was 46.8 Gy of 1.8 Gy per fraction, to the prostate bed - 61.1 Gy of 2.35 Gy per fraction in case of biochemical recurrence (BR) and if region of clinical recurrence (CR) was identified - 65 Gy of 2.5 Gy each, in 26 fractions with pretreatment imaging; VMAT (two arcs: CW (185°-175°), CCW (175°-185°) technology with SIB was used. Toxicities were scored using RTOG/EORTC Radiation Toxicity Grading.

Results: 41 patients were treated by the HF SRT. Median follow-up was 22 months (10 - 30). Biochemical control rate 37 (90.2%) patients, locoregional control rate - 41 (100 %) patients. No grade 3 or greater acute toxicities were observed.

Conclusion: We would like to suggest a new scheme of HF SRT with SIB in 26 fractions for patients with recurrence of PCa after RP. The toxicities and early biochemical response rates were comparable with conventional fractionation SRT.

EP-1337
PSA Kinetics: HDR prostate brachytherapy boost in combination with external beam radiotherapy
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Purpose or Objective: The Aim of this study is to evaluate PSA kinetics in men with intermediate and high risk prostate cancer treated with HDR brachytherapy boost in combination with external beam radiotherapy (EBRT) and short term androgen deprivation therapy (ADT).

Material and Methods: Data from 134 consecutive patients treated with HDR brachytherapy boost in combination with external beam radiotherapy was extracted from a prospectively maintained database. All the patients had a minimum follow up of 4 years. Patients who were on androgen deprivation therapy for over 12 months were excluded from the analysis. After exclusion we had 95 evaluable patients. All patients received either 17 Gy in 2 fractions or 15 Gy in single fraction of HDR brachytherapy boost followed by external beam radiotherapy 37.5 Gy in 15 fractions. 70% of patients received Androgen deprivation therapy (ADT) for less than or equal to 6 months, 15% received for 6-12 months, and 15% received no hormones. 3-6 months of ADT was given neoadjuvantly. Date of HDR boost was considered as time=0. Benign PSA bounce was defined as PSA rise of >0.2ng/ml followed by subsequent decline to pre bounce level.

Results: Median follow-up was 4.3 years. At the time of median follow up the median PSA was 0.19. PSA bounce was seen in 32.6% (n=31). Magnitude of PSA bounce was <1ng/ml in 55% (n=17), 1-2ng/ml in 13% (n=4), >2ng/ml in 32% (N=10). In 16 out of 17 patients with a PSA bounce of <1ng/ml was due to a benign bounce. 50% of patients with a PSA bounce between 1-2ng/ml had a benign bounce and the remaining 50% developed biochemical failure. In 9 out of 10 patients who had a PSA bounce of >2ng/ml subsequently developed a biochemical failure. Most common time for benign PSA bounce was between 6 and 18 months.

Change in PSA over time

Conclusion: PSA bounce is a common phenomenon which occurs in about a third of men who were treated with short term ADT in combination with HDR boost and EBRT. Benign PSA bounce tends to have a smaller magnitude of rise in PSA <1ng/ml. However patients who developed biochemical failure had PSA bounce of larger magnitude >2ng/ml. Investigators at the time of submission of the abstract are examining variables which predict PSA bounce.

EP-1338
Delay Haematuria after prostatic radiotherapy: do it mean always radiation cystitis?
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Purpose or Objective: A retrospective analysis in 368 consecutives organ confined prostate cancer (PC) patients has been made for evaluating the rates of haematuria, etiology and onset time. All these patients have been treated from September 2001 to December 2013 with different multimodality radical radiotherapy approaches: Intensity Guided Modulated radiotherapy (iGRT), Low dose rate brachytherapy (LDR BT) exclusively, LDR BT plus External radiotherapy (EBRT) or High dose rate Brachytherapy (HDR-BT) plus EBRT.

Material and Methods: Median age of the whole group was 70,5 years (range 60-81y). Median PSA at diagnostic of the prostate cancer was 9.3 ng/ml (range 4,67-95 ng/ml). Median Gleason 6 (range 2-10). 20 patients (41,47%) had received iGRT radiotherapy treatment, 4 patients (8%) LDR BT, 10 patients (21%) LDR plus EBRT and 14 patients (30%) HDR-BT plus EBRT. In 17 patients (35,4%) the complete pelvis (L5-S1)
was irradiated receiving 50.4 Gy. The comorbidities associated were: 21% diabetes, 62.5% High blood pressure, 40% cardiac pathology and 33 % were with anticoagulant therapy. All our haematuria patients have been handled following the next algorithm: Blood Test (including platelets and liver parameters) and Urine Culture. If both are negative: Ultrasound (Kidney, urether and bladder). If haematuria goes on: Cystoscopy.

Results: With a median follow-up of 52.5 months (range 5-122 m), 48 patients (13%) have had haematuria. As etiological factors we have been found: Urine Infection 12 p (25%). Time: 32 months (12-70 m), Bladder cancer 10 p (21%). Four of them a recurrence of a previous treated bladder tumour. Time: 32 months (3-120 m), RADIATION CYSTITIS 10 p (21%). Time: 13 months (6 - 38 m), Lithiasis 4 p (8%). Time: 25.5 months (26-30 m), Local progression of Prostate cancer 1 p (2%). Time: 72 months), Autolimited haematuria (Culture and image studies negatives. It does not repeat.): 9 p (19%. Time: 58 months (25-80 m) and Fatal haematuria (Exitus. Not known etiology): 2 p (4%. Time: 78 and 84 months).

Conclusion: In our experience, haematuria is a frequent pathology in patients treated with radiotherapy of prostate cancer. The etiology of it spreading in similar proportions, across the different causes founded. The time of it presentation is important for the diagnostic. In the mind of the specialist must be different causes of it, NOT ONLY radiotherapy Cystitis taking in account that if it is due to radiotherapy it appears mainly, in the first two years after radiotherapy treatment.

EP-1339

Influence of leaf thickness on prostate VMAT about dosimetric-volumetric and delivering parameters

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Purpose or Objective: Volumetric modulated arc therapy (VMAT), a complex treatment strategy for intensity-modulated radiation therapy, has been established clinically. While 5 mm thick MLC (L50) is a usual for VMAT, we have been using 2.5 mm thick MLC (L25) from 2012 to treat the prostate cancer. So we compared dosimetric, volumetric and dose delivering parameters between L25 and L50.

Material and Methods: Twenty four cases were selected from our database. Those patients were treated for the prostate carcinoma in the feet-first prone position. Gantry angle range was 182 deg. to 178 deg. and collimation angle was set 0 deg. SmartArc system of Pinnacle3 was used with 6MVX physical data of Novalis Tx (L25) and 6MVX Siemens® ARTISTE physical data loaded on Varian Clinac-21 Ex (the base machine of Novalis) virtually (L50). The same consolidations for optimization were used. For example, Min Dose, D95 and Max Dose of PTV were 76 Gy, 80 Gy and 84 Gy, respectively. Rectal V40 was set to 20%. Wilcoxon rank sum test was applied to D98, D95, D50 and D02, V40, Time and MU were 75.8 Gy, 77.5 Gy, 81.2 Gy, 84.2 Gy, 20.3%, 82.7 sec and 646.6 for L25, and were 75.6 Gy, 77.3 Gy, 81.0 Gy, 83.8 Gy, 19.6 %, 149.9 sec and 741.6 for L50, respectively. Only those mean values of D02, V40 and Time were significantly different between L25 and L50 by Wilcoxon test (Table).

Results: Mean values of D98, D95, D50 and D02, V40, Time and MU were 75.8 Gy, 77.5 Gy, 81.2 Gy, 84.2 Gy, 20.3%, 82.7 sec and 646.6 for L25, and were 75.6 Gy, 77.3 Gy, 81.0 Gy, 83.8 Gy, 19.6 %, 149.9 sec and 741.6 for L50, respectively. Only those mean values of D02, V40 and Time were significantly different between L25 and L50 by Wilcoxon test (Table).

Conclusion: L25 and L50 plans were very similar from the dosimetric point of view (difference of D02 was significant but very small in value; 0.4Gy, L25-L50). From the volumetric (V40) point of view, difference was small (0.7%, L25-L50) but significant. In terms of dose delivery (Time), differences were remarkable and largely depend on the ROV especially in the cases of L50. We may use L50 with the expense of treatment time compared to L25.

EP-1340

Nomograms predicting the probabilities of having indications for adjuvant prostatic radiotherapy

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Purpose or Objective: For patients with clinically localized prostate cancer with high probabilities to undergo adjuvant radiotherapy after radical prostatectomy(RP), radical radiotherapy may be a proper treatment option for saving time and medical costs. Our purpose is to develop nomograms combining PSA level, clinical T stage, and biopsy Gleason Score to predict probabilities of having indications for adjuvant radiotherapy including extraprostatic extension, positive margin, Gleason Score 8-10 and to provide data for individualizing initial treatment options.

Material and Methods: We analyzed 214 men treated with RP between August 2013 and August 2015 at our hospital. Average age was 66 years. Men who enrolled in this study had a preoperative PSA level assessed before or at least 4 weeks after prostate biopsy, biopsy Gleason Score, pelvic MRI and clinical T stage (TNM 2009 classification). Men were excluded for preoperative treatment with neoadjuvant hormonal therapy, or transurethral resection of the prostate because of potential influence on pathologic stage or PSA level. Preoperative predictors included PSA level, clinical T stage (T2a/b, T2c, T3a, T3b), and biopsy Gleason score (3-6, 3+4=7, 4+3=7, 8-10). These predictors were used in multivariable logistic regression analysis based nomograms to estimate the probabilities of extraprostatic extension, positive margin, Gleason Score 8-10 after RP, respectively. The predictive accuracy and discriminative ability of the