predicted for clinical and biochemical failures. MVA indicates that RBP is an independent risk factor for biochemical failure \((p=0.003, \text{HR}=0.6)\) while it is the strongest risk factor for clinical failures and PCa deaths \((p<0.001, \text{HR}=0.5, \text{regression coefficient } b<0.5)\). No statistical significant difference in rectal volume between RBP \((\text{mean volume } 62.4±24.5 \text{ cc})\) and NRPB \((\text{mean volume } 63.4±27 \text{ cc})\) was observed (chi square \(p\) value equal to 0.52).

**Conclusion:** We found strong evidence that rectal/bladder preparation significantly decreased \((\text{HR}<0.6, b<-0.5)\) the probability of death from PCa, biochemical and clinical failures in patients who were treated with 3DCRT for PCa without daily image-guided prostate localization, presumably because pts with RBP are able to maintain a reproducible empty rectum and comfortable full bladder for all the treatment. These results also emphasize the routinely need of image-guided radiotherapy to improve outcome in prostate cancer patients.

**PO-0754**

**Whole body Integral dose is associated with radiotherapy related fatigue in prostate cancer**

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Results: The analysis pertains to 146 RRT CONV pts, 104 RRT HYPO pts, 74 PRT CONV pts and 94 PRT HYPO. The median age in the 2 studies was 71 (RRT) and 66 (PRT) years \((p = 0.0001)\). Overall, urinary function was always better in the RRT CONV cohort. Statistically significant differences among the 4 groups have emerged with respect to urinary frequency, urgency, effort, nocturia. When comparing RRT vs PRT, frequency \((p = 0.01)\) and stress \((p = 0.03)\) were significantly more present in PRT, while only a borderline difference in terms of urgency \((p = 0.07)\) was evident. The last item of IPSS shows a significant difference of quality of life between groups, especially at 12 month where RRT cohort, especially CONV, shows a better score than PRT patients. Figure 1 shows the comparison of each group for all IPSS items (incomplete emptying, urinary frequency, intermittence, urgency, urinary stream, obstruction, nocturia, QoL), evaluating the mean response in the first five time of compilation (Rt start, RT end, 3m, 6m, 12m).

**Conclusion:** These preliminary results seem to suggest that RRT would result in less deterioration of urinary symptoms over time than PRT, especially RRT with conventional fractionation. Further analyses are ongoing in order to study the effect of baseline urinary situation, age, doses to the bladder and the impact of each urinary symptoms on quality of life.
Purpose or Objective: Although intensity modulated radiotherapy (IMRT) permits the delivery of a highly conformal dose to target volumes while sparing dose to identified organs at risk, it results in a higher whole body integral dose due to irradiation of a larger volume of tissue at lower doses. A randomized clinical trial in head and neck cancer comparing IMRT with 3-D conformal radiotherapy, demonstrated higher acute fatigue in the IMRT cohort, raising the possibility of an association with higher integral dose. We hypothesized that a higher integral whole body dose is associated with worsening fatigue and an adverse functional outcome in patients with localized prostate cancer treated with intensity modulated external beam radiotherapy.

Material and Methods: 26 patients with localized adenocarcinoma of prostate treated with intensity modulated external beam radiotherapy were included in this analysis. The integral dose was calculated as the product of mean body dose and body volume and the study cohort was dichotomized using the median integral dose as the cut-off value. The fatigue, physical functioning and role functioning domains of the EORTC QLQ-C30 questionnaire prior to radiotherapy and upon completion of radiotherapy were assessed. The outcome measure was defined as worsening in any of these three domains.

Results: The median integral dose was 119.7 litre-Gy (range 90.5 - 168.1). In the whole population 17/26 (65%) had worsening of fatigue, physical or role functioning. A significantly higher proportion of patients with an integral dose above median had worsening fatigue, physical and role functioning compared with patients with an integral dose below median. (6/13 versus 11/13; z test for proportions p=0.04).

Conclusion: To our knowledge, this is the first study linking acute worsening of fatigue and functional outcome with whole body integral dose. Further validation in a larger cohort and in different tumour sites is necessary and the relationship between integral dose and toxicity merits further investigation.

PO-0755
Intestinal toxicity from WPRT delivered with IMRT is negligible. A multicentric observational trial.
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Purpose or Objective: To prospectively evaluate acute intestinal toxicity (AIT) from RT including whole-pelvis irradiation (WPRT) for prostate cancer by means of a validated questionnaire (IBDQ, Intestinal Bowel Disease Questionnaire), and to investigate the intestinal symptoms that most affect patient quality of life (QoL).

Material and Methods: In 2014 a multicentric, observational trial aimed at assessing IT from RT including WPRT was activated. Prior to study activation, a pilot feasibility study was started in the coordinating institute. For the study’s purpose, the IBDQ was used to evaluate the worst variation (delta) between baseline and RT mid-point and end, and thereafter every 6 months up to 5 years. The questionnaire comprises 32 items investigating bowel symptoms (10 items), emotional health (12), systemic symptoms (5) and social function (5). The responses are scored on a seven-point scale in which 7 corresponds to the best function and 1 to the worst. Average per item scores can be calculated for each of the 4 domains. This analysis pertains to the first 144 pts (8 Institutes) with complete data available at baseline, RT mid-point and end. Initially, only pts treated with post-prostatectomy RT with either adjuvant (ADV, n= 71) or salvage (SALV, n=73) intent were enrolled. Pts were treated with static-field IMRT (n=31), Tomotherapy (n=42) and VMAT (n=71), with conventional (1.8-2 Gy/fr, n=78) or moderate hypofractionation (2.15-2.65 Gy/fr, median 2.35, n=66). The median EQD2 dose to the prostatic bed and pelvic lymph-nodal area was 71.2 and 50 Gy, respectively. 58 pts received concomitant androgen deprivation.

Results: Overall, self-perceived intestinal toxicity from WPRT was mild: mean scores for bowel symptoms at baseline, RT mid-point and end were in fact 6.58, 6.09, 5.90 (repeated measures Anova, p<0.0001), for emotional health 5.94, 5.79, 5.69 (0.0003), for social function 6.20, 5.83, 5.65 (p<0.0001) and for systemic symptoms 5.95, 5.55, 5.40 (p<0.0001), respectively. For the evaluation of acute toxicity, the worst variation (delta) between baseline and RT mid-point or end was considered. With respect to the bowel symptoms, the median score decrease (worsening) was 2 points for only one item (frequent bowel movements), 1 point for loose bowel movements, gas passage, abdominal bloating and urge to defecate, and 0 for abdominal pains and cramps, rectal bleeding, accidental soiling and nausea. Nevertheless, abdominal pain and urge to defecate were the two items with higher predictive power (AUC 72-79% at ROC curve analysis) with respect to a worsening of ≥1 point (25th percentile) of either emotional or systemic or social domains, as well as gas passage, urge to defecate and nausea (AUC 72-73%) for emotional.

Conclusion: The self assessed AIT from WPRT delivered by means of modern IMRT technique is negligible. Abdominal pain and urge to defecate are the 2 symptoms mostly correlated with a worsening of patient’s QoL.

PO-0756
Choline PET/CT and Stereotactic Body Radiotherapy in oligometastatic prostate cancer patients
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