Conclusion: In total 60 of 94 pts (63.8%) with homogenously pT3a pN0/cN0 R1 resected PCA received radiotherapy highlighting the need of adjuvant/salvage treatment in those pts. The efficacy of radiotherapy is documented by the fact that the median PSA of all irradiated pts at 80 months of follow up was 0.01ng/ml (0.0 – 204.9). This may be blurred by the influence of ADT (15 pts). However, even our small retrospective cohort demonstrates a biochemical recurrence rate of originally postoperatively PSA negative pts of 49.2%. Furthermore, 65.7% of these pts could be rendered at least temporarily PSA-free by postoperative radiation.

EP-1357

Moderately hypofractionated IGRT / IMRT-SIB in prostate carcinoma: toxicity and QoL in 300 patients

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Purpose or Objective: Aim of this study was to evaluate the safety, in terms of acute and late toxicity and QoL in patients (pts) with prostate carcinoma (PCa) treated with moderately hypofractionated IGRT/IMRT-SIB using fiducial markers.

Material and Methods: Three-hundred consecutive PCa pts were treated with daily on-line IGRT based on 2D (6MV) orthogonal images. Low risk pts received 62.1 Gy in 23 fractions to PTV1 (prostate). Intermediate risk pts with probability < 15% of lymph nodes involvement (Roach's equation) received 67.5 Gy and 56.25 Gy in 25 fractions to PTV1 and PTV2 (seminal vesicles). In high risk patients with probability > 15% of lymph nodes involvement, pelvic lymph nodes (PTV3) received 50 Gy. Acute and late toxicities were prospectively recorded using RTOG-EORTC scale and AUA score. Survival curves were calculated using the Kaplan-Meier method. Androgen suppressive therapy was prescribed based on risk categories.

Results: GI and GU G ≥ 3 acute toxicity were 0.7 % and 2.0 %, respectively. With a median follow-up of 30 months (range: 12-72), late GI ad GU toxicity were recorded in 4 and 18 pts, respectively. Based on IPSS score, no pts reported severe urinary symptoms, and 7.7% of pts reported moderate symptoms only. In terms of QoL, 91.3% declared to be "pleased", 5.7% "mostly satisfied" and 1.3% "mixed" (1.7% not evaluable).

Conclusion: Our experience confirms the safety of moderate hypofractionation delivered with IGRT/IMRT-SIB and a moderate impact on QoL in pts with PCa. Prolonged follow-up is needed to evaluate the results in terms of patients outcome.

EP-1358

Prospective evaluation of PSA kinetics during salvage radiotherapy as a predictor for outcome

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Purpose or Objective: The aims of this prospective observational trial was to study early PSA kinetics by weekly PSA measurements during salvage radiotherapy (RT) for patients with recurrent prostate cancer in order to develop a predictive model for treatment outcome.

Material and Methods: This prospective study included patients with a biochemical recurrence after prostatectomy referred for curative salvage RT. No previous or present anti-hormonal treatment was allowed. All patients were prescribed 70 Gy in 35 fractions to the prostate bed. PSA was measured at baseline and then weekly during RT. A PSA follow-up was scheduled at 3, 6, 12, 18 and 24 months after RT and yearly thereafter. Treatment response was defined as PSA <0.1 ng/ml at these time points (PSA_RESP_3/6/12/18/24). Bivariate analyses of the association between response and clinical factors as well as PSA during RT were performed. Here we report the results for end-point PSA_RESP_6.

Results: Since Sept 2012, 151 patients have reached six months follow-up after RT. PSA_RESP_6 was achieved in 89 (59%) of the cases. Significant predictive clinical factors were proportion of positive biopsies, Gleason score, lymph node extirpation and surgical borders. However PSA during therapy was the single strongest predictive factor for PSA_RESP_6 with a ROC AUC up to 0.92 (95% CI 0.86 – 0.95).

Conclusion: We propose that PSA monitored during salvage RT can be used as a predictive factor for treatment outcome and subsequently for personalized patient management.

EP-1359

A randomized trial comparing bladder volume consistency during EBRT in postoperative prostate cancer

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Purpose or Objective: There are different guide lines about delineating the post-operative prostatic fossa before EBRT. They all recommend that the patients should have a half full or comfortably filled bladder at the planning CT and at each fraction in order to ensure a consistent bladder volume throughout the whole treatment course. The aim of this study was to compare bladder volume variations between 1) a specific bladder filling protocol and 2) a simple instruction to the patients to keep a comfortably filled bladder before each treatment fraction.

Material and Methods: Twenty-nine patients (median 65 y) with PSA-relapse planned for salvage radiation therapy were randomised in two groups, with different preparation instructions:
1. Drinking 300 ml and empting the bladder one hour before planning CT and treatment fractions. (13 patients)
2. A comfortably filled bladder before planning CT and treatment fractions. A pre-treatment drinking volume according to patient's preference. (16 patients)
Treatment was prescribed to 70 Gy/35/2. As a complement to positioning to bony anatomy a CBCT was performed once a week to calculate the bladder volumes.

Results:

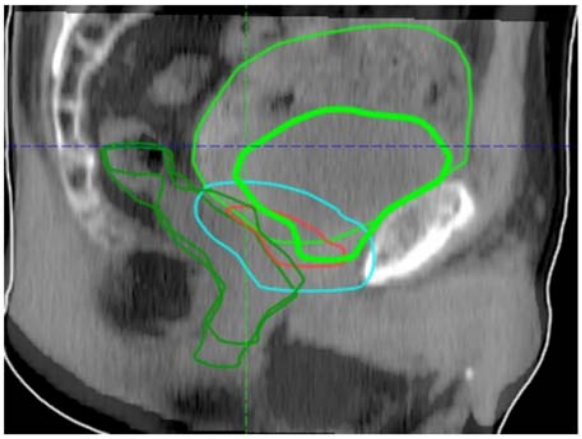

Figure 1. An example of a patient with large variation in bladder filling between planning CT (thin light green) and CBCT before a treatment fraction (thick light green). The planning-CT and CBCT are matched to bony anatomy. (Red =CTV, blue=PTV, dark green= rectum)

The bladder volumes varied widely both within each patient (see example in Fig. 1), between patients in the same group and between the groups.

The individual patient mean bladder volume varied from 79±23 to 269±90 ml in group 1 and between 64±19 to 309±110 ml in group 2.

Furthermore, there was no difference in the group mean bladder volume between the groups, 138±82 ml in group 1 and 150±92 ml in group 2 (p-value 0,59).

Conclusion: The findings indicate that the use of a strict bladder protocol is not superior to a comfortably filled bladder-regime to ensure a consistent bladder volume throughout the whole treatment course. The conclusion would be to let the patient prepare according to his own preference with a comfortably filled bladder. This could result in an easier patient setup due to a more relaxed patient. The impact of the wide variations in bladder volume on toxicity and dose distribution is further to be determined.

EP-1360

Comparing patient and physician-reported GI effects in locally advanced prostate cancer radiotherapy

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Purpose or Objective: To compare patient-reported outcomes (PROs) with physician-assessed outcomes (PAOs) on gastrointestinal (GI) dysfunction pre- and post-radiotherapy (RT) for locally advanced prostate cancer.

Material and Methods: Adverse GI effects were assessed in 80 subjects treated with intensity-modulated RT for locally advanced prostate cancer (78 Gy/56 Gy in 39 fractions to the prostate/pelvic lymph nodes) in 2011-2012. A study-specific PRO and CTCAE.v.3-based PAOs were completed pre- and post-RT (end, 3, 6, 12, and 24 m). This study focuses on the 18 (PROs) and 8 (PAOs) potentially RT-induced GI symptoms. Symptomatic subjects were considered as having PRO>Grade 1 and PAO>Grade 0 symptom severity. Relative risk ratios (RR) with related 95% confidence intervals (95%CI), and p-values (two-sided 5% significance level) were calculated for each symptom and follow-up time post-RT, with pre-RT symptom severity as the reference.

Results: Across all follow-up times, significant RRs were observed for in total 4/18 (RR: 2-25; p<0.001-0.02) PROs and 1/8 (RR: 2; p=0.0001-0.02) PAO (Table). Defecation urgency and Obstruction yielded the tightest 95%CI among the PROs, and Flatulence among the PAOs. The RR indicated that the PROs acknowledged both acute (12 symptoms) and late (3m: 5; 6m: 4; 12m: 7; 24m: 9 symptoms) RT-induced effects, and that the PAOs typically focused on acute rather than late effects (7 vs. 1-3 symptoms).

Table. Prevalence (%), relative risk ratio (RR), and 95% CI (ps0.05) at each follow-up time for each PRO (upper) and PAO (lower) symptom.

		End of RT N=79			3m post-RT N=79			6m post-RT N=80			12m post-RT N=77			24m post-RT N=74		
GI domain	**PRO**	**%**	**RR**	**95%CI**	**%**	**RR**	**95%CI**	**%**	**RR**	**95%CI**	**%**	**RR**	**95%CI**	**%**	**RR**	**95%CI**
Defecation urgency	Time to defer defecation	54	7	3-15	33	4	2-9	28	3	2-8	36	5	2-10	31	4	2-9
	Re-defecate<1h after last defecation	53	4	2-7	32	**2**	1-4									
	Forcing toilet visit	58	5	3-9	42	3	2-7	35	**3**	2-6	44	4	2-7	39	**3**	2-6
Fecal leakage	Liquid stools	25	3	1-8							25	3	1-7	20	3	1-6
	Solid stools															
	Protective pads use	15	24	2-400							12	19	1-310	12	19	1-320
	Nocturnal bowel movements	24	9	2-38												
	Soiling underwear										47	2	1-6	51	**2**	1-3
Obstruction	Incomplete evacuation	44	4	2-9	30	**3**	1-6	21	**2**	1-5	29	**3**	1-6	34	3	2-7
	Difficulty passing stools	13	20	1-340												
	Strain@defecation	27	**2**	1-5										27	**2**	1-5
Pain	@Defecation	22	6	2-18												
	Anal/rectal	25	3	1-6												
Stool content	Mucous	33	25	4-180	15	11	2-85	21	16	2-120	16	12	2-88	16	12	2-91
	Blood													11	8	1-63
	PAO	**%**	**RR**	**95%CI**	**%**	**RR**	**95%CI**	**%**	**RR**	**95%CI**	**%**	**RR**	**95%CI**	**%**	**RR**	**95%CI**
Fecal leakage	Diarrhea	49	6	3-14	22	3	1-7									
	Incontinence	14	11	1-81	11	9	1-66				12	9	1-68			
Flatulence	Flatuelence	59	**2**	2-4	48	**2**	1-3	51	**2**	1-3	49	**2**	1-3	45	**2**	1-3
Pain	Abdominal	14	4	1-12												
	Bloating	18	5	1-15												
	Rectal	19	7	2-31												
Proctitis	Proctitis	13	5	1-22				13	5	1-21						

Conclusion: This study indicates that the number of symptoms and temporal patterns of RT-induced GI dysfunction in locally advanced prostate cancer depend on the applied assessment method. Physician-assessed outcomes according to CTCAE.v.3 captured acute effects, and in particular flatulence, whilst patient-reported outcomes captured both acute and late effects mainly related to defecation urgency and obstruction.

EP-1361

Prognostic factors in 1080 prostate cancer treated with radical external beam radiotherapy

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Purpose or Objective: The aim of this paper is to analyze, in prostate cancer patients treated with external beam radiotherapy (EBRT), the prognostic factors and their impact on the outcome in terms of Cancer Specific Overall Survival (CSOS), Biochemical Disease Free Survival (BDFS) and Clinical Disease Free Survival (CDFS).

Material and Methods: From October 1999 and March 2012 we treated by EBRT, 1080 prostate cancer patients. The mean age was 69.2 years. Pretreatment staging examinations were: digital rectal examination (DRE), pretreatment PSA (iPSA), abdominal ultrasound, abdominal CT scan and bone scan. The 87% of patients were classified as < cT2, 87% had a