fractionation. The purpose of this study was to define the maximum tolerated dose of an hypofractionated RT treatment based on IGRT-IMRT-SIB technique with final boost by IGRT-stereo-VMAT technique.

Materials and Methods: Intermediate-high risk CAP patients (NCCN categories) were enrolled in consecutive cohorts treated with increasing RT doses. In the first cohort patients received a dose of 45 Gy (1,8 Gy/fraction) on pelvic lymph nodes and a concurrent boost with total dose of 65 Gy (2,6 Gy/fraction) on prostate +/- seminal vesicles, using IMRT-SIB technique after implantation of intraprostatic fiducials. In the second cohort patients also received a final boost of 5 Gy in single fraction with stereotactic-VMAT technique. An adjuvant hormone therapy of 6 (intermediate risk) and 24 months (high risk) was prescribed. Proctoscopy was performed to evaluate rectal toxicity using the Wachter-Score one year after the end of RT. The study design allowed dose escalation in case of < 3/25 (12%) evaluable patients with Wachter-score > 3.

Results: Sixty patients were recruited in the first cohort and 139 patients in the second cohort (total: 199 patients; median age: 73 years (range: 50-82); median PSA: 8,7 ng/ml (range: 0,15-83,0); cT3-4: 41,8%; Gleason score > 7: 29,6%). The 3-year biochemical recurrence-free survival was 91,6%. The analysis results are reported in the table.

	I cohort	II cohort	p:
Number of patients	60	139	
Prostate dose	65 (2.6 Gy/fr.)	65 (2.6 Gy/fr.) + boost (5 Gy)	
Toxicity			
Acute GI G ≥ 3 (RTOG)	1.7%	1.4%	.904
Acute GU G ≥ 3 (RTOG)	5.0%	2.3%	.309
Late GI G ≥ 2 (RTOG-EORTC 2 years)	11.9%	16.5%	.590
Late GU G ≥ 2(RTOG-EORTC 2 years)	4.3%	2.5%	.610
Wachter Score G > 3	7.7% (2/26 pat.)	4.5% (1/22 pat.)	.706
3-year biochemical recurrence free survival	86.5%	100.0%	.150

GI:gastrointestinal; GU:genitourinary

Conclusions: In a dose-escalation study, the use of IGRT-VMAT-SIB technique with hypofractionated total dose of 65 Gy resulted feasible in terms of acute and late toxicity, with positive preliminar results in terms of biochemical control. Stereotactic boost (with total dose of 70 Gy) did not increase toxicity rates.

PO-0725

Consequential late rectal toxicity in radio-hormonal therapy in prostate cancer

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Purpose/Objective: Some evidence suggests that there is a significant correlation between acute and late rectal toxicity after radiotherapy. The purpose of this analysis is to test this hypothesis in a large sample of patients (597), treated with adjuvant radiotherapy (RT) +/- hormonal therapy (HT).

Materials and Methods: The results, in terms of acute and late toxicity, were analyzed and compared in a population of patients enrolled in 8 different clinical studies. Acute toxicity was evaluated according to the RTOG scale and late toxicity was evaluated according to the RTOG-EORTC scale. The cumulative actuarial late toxicity was calculated using the Kaplan-Meier method and comparison of survival curves was performed by logrank test (univariate analysis) and Cox's proportional hazard method (multivariate analysis, using as a covariate: radiotherapy dose, fractionation, prophylactic lymph node irradiation, adjuvant hormonal therapy).

Results: 597 patients, treated with radiotherapy were evaluated; 91.5% of patients received adjuvant hormonal therapy (LH-RH analogue: 49,9%; antiandrogen agent [bicalutamide, 150 mg per day]: 41.6%). The results of statistical analysis are shown in the table. There is a statistical correlation between acute and grade 1 and 2 late rectal toxicity, both at univariate and multivariate analysis.

5-year late toxicity-free survival (%)			
Acute toxicity:grade	G1	G2	G3
0	75.1	89.1	98.0
1	55.6	83.9	98.2
2	46.0	79.5	92.1
3	30.5	50.6	100.0
p: (logrank)	**<0.001**	**<0.001**	0.183
p: (Cox)	**<0.001**	**0.005**	0.235

Conclusions: The results of this analysis confirm the close correlation between acute and late radio-induced rectal toxicity. These results suggest that excessive early damage to the 'acute-respoding' component of the rectal wall plays an important role in the genesis of late toxicity. Radiation proctitis is thus confirmed, at least in part, as a 'consequential' effect. This justifies the use of acute toxicity as surrogate end-point of late complications in dose-finding studies on radiation therapy of prostate cancer.

PO-0726

Is seminal vesicle invasion detected on MRI still the same poor prognostic factor as it used to be?

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Purpose/Objective: Traditionally, seminal vesicle invasion (T3b) was diagnosed by digital rectal examination or transrectal ultrasound. In the recent years diagnostic MRI has become available, a technique that is much more sensitive and can detect even minimal invasion. It is, however, unclear whether a MRI based T3b (MR-T3b) has the same poor prognosis as a clinically staged T3b (cT3b). We therefore compared the clinical outcome of MR T3b with that of cT3b prostate carcinoma (PC).

Materials and Methods: Patients (n=90, cohort A) were treated with (78 Gy) image-guided IMRT for localized PC between 2008 – 2010 and had diagnostic signs of SV invasion on the planning MRI; 60 % was prescribed 3y of adjuvant hormonal treatment (AHT) because of clinical high-risk features. Pre-RT screening for positive LN was performed. Patient and tumor characteristics were compared with a previous cohort B (n=87) treated in 1997 – 2002 (68 Gy or 78 Gy) with 3D conformal RT (32 % received 3y AHT). Freedom from failure (FFF) was scored according the Phoenix definition. Multivariate Cox regression (MV) was applied to determine significant predictive factors for freedom from failure (FFF).