Material and Methods: Thirty-four patients were included in a period from 1994 until 2013. Patients’ charts were reviewed to obtain patients’, treatment and tumor characteristics. DVH parameters were analyzed after reconstruction of the original brachytherapy plan plus delineation of intermediate risk CTV (CTVIR) and organs at risk. The target volume at time of BT was the GTVres and was defined by the treating doctor based on clinical examination and CT scan. The GTVIR was defined by the tumor extension at time of diagnosis. Survival rates were calculated using the Kaplan-Meier method. Morbidity was scored by CTCAE v3.0.

Results: Nine (26%) patients had FIGO stages I; 13 (38%) II; 5 (15%) III and 7 (21%) IVA. Median age at diagnosis was 68 years (33-91). Median follow-up was 37 months (3-2724). Thirty-two patients received whole pelvic external beam radiotherapy (EBRT) to a median dose of 46 Gy (45-50.4 Gy), followed by BT in 31 patients; two patients received BT alone. The median D90 and D98 of the GTVres were 68 Gy and 67 Gy respectively, with a median V100 of 88%. The median D90 and D98 of the CTVIR were 65 Gy and 61 Gy respectively, with a median V100 of 88%. The coverage of the GTVres seemed adequate, in retrospect it was often disputable if the tumor at BT was fully covered due to poor visibility of the tumor on CT scan.

Addition, coverage of the CTVIR was poor, which can however be explained by the fact that until recently our target at BT was exclusively based on GTVres. Finally, the use of MRI at time of BT seems necessary to better define the target.

Purpose or Objective: To evaluate the treatment results, and complication rates in patients with locally advanced cervical cancer after external beam radiotherapy (EBRT) and high-dose rate (HDR) brachytherapy with dose escalation.

Material and Methods: All patients with locally advanced cervical cancer (FIGO: IB 7 patients, II 10 patients, III 7 patients, IV 4 patients) treated with radical radiotherapy in our center from 2007 to October 2015 were reviewed. Twenty-eight patients were treated with EBRT using intensity-modulated radiation therapy (IMRT) technique following by HDR brachytherapy +/- chemotherapy. Planification included CT (50%) or PET-CT (50%) for GTV delineation. The most common prescription was 50.4 Gy (1.8Gy per fraction) for pelvic lymph nodes +/- paraaortic lymph node with concomitant boost up to 60. 48 Gy (2.16Gy per fraction) for macroscopic nodal disease and parametrum affection. HDR brachytherapy was used applying tandem (25 Gy in 5 fractions) in most patients. Toxicity was assessed according to RTOG-EORTC criteria. All statistical analysis was performed using SPSS vs 22.0.

Results: There was no grade 3 acute toxicity associated with EBRT. Only one case of grade 4 acute toxicity was observed after HDR gynecological brachytherapy. The median age was 51 years (range 39 - 81). The median of follow up was 30 months (range 4 - 85). The actuarial progression-free survival was 77% at 36 months. Median time to local progression has not been reached. The median overall survival was 30 (range 4-85) month.

Conclusion: Radical radiotherapy +/- chemotheraphy is still a standard treatment in locally advanced uterine cervical cancer with good local control and global survival. Dose escalation is possible using PET-CT and IMRT which allow better conformation and better tolerance.

Purpose or Objective: To determine clinical efficacy and toxicity of weekly nimotuzumab plus cisplatin concurrent with intensity-modulated radiotherapy in Chinese women with locally advanced cervical cancer.

Material and Methods: Between December 2013 and July 2015, a total of 27 patients with primary carcinoma of the cervix, FIGO stage IB1 to IVA, squamous cell carcinomas confirmed by histology were enrolled into this study. 26 patients received intensity modulated radiotherapy and 5 – 6 fractions HDR brachytherapy, 1 patient received intensity modulated radiotherapy followed by surgery because she had rectum carcinoma at the same time. Chemotherapy scheme was 200 mg nimotuzumab and 40 mg/m2 cisplatin weekly for six cycles. 2 patients (ages: 78 – 79) received only 200 mg nimotuzumab weekly for six cycles. The patients were
monitored for acute toxicity using the Common Toxicity Criteria, version 3.0 and late toxicity using the RTOG/EORTC.

Results: 3°/9 (27%) hematologic toxicity, principally neutropenia (9/27) and thrombocytopenia (2/27), occurs late and no grade 4 toxicity occurred. 2 patients (ages: 78-79) finished 200 mg nimotuzumab weekly for six cycles with 1° hematologic. Others finished 5 - 6 cycles chemotherapy. All of patients finished radiotherapy in 7 - 8 weeks. The median follow-up was 9.5 months (3 - 22). At 4 months, 24 patients had attained complete response (23 CR, 1 pCR), 3 patients had achieved partial response (PR). 2 of 3 patients who had PR appeared local recurrent at 8 months and 9 months respectively. Local control rates were 92.6 % (25/27). All of patients are still survive. 1 patient had hemorrhagic radiation proctitis at 7 months.

Conclusion: Combination nimotuzumab 200 mg and DDP 40 mg/m2 weekly for six cycles concurrently with intensity-modulated radiotherapy can be safely administered in Chinese women. Primary result showed a good clinical outcome. We need continue follow-up. Further development to determine if the combination will help yield a survival benefit.

Electronic Poster: Clinical track: Prostate

EP-1333
PSA kinetics after hypofractionated stereotactic body radiotherapy for localised prostate cancer
H. Kim1, J.H. Phark1, W.C. Kim1
1Inha University Hospital, Radiation Oncology, Inchon, Korea Republic

Purpose or Objective: Stereotactic body radiotherapy (SBRT) has emerged as an effective treatment for localized prostate cancer. However, prostate-specific antigen (PSA) kinetics after SBRT has not been well characterized. The objective of the current study is to analyze the rate of PSA decline and PSA nadir following hypofractionated SBRT in low- and intermediate-risk prostate cancer.

Material and Methods: From 2008 to 2014, thirty-six patients newly diagnosed, low- and intermediate-risk (NCCN definition) prostate cancer were treated with SBRT using Cyberknife. Total dose of 36.25 Gy in 5 fractions of 7.25 Gy were administered. No one received androgen deprivation therapy (ADT). PSA nadir and rate of change in PSA (slope) were calculated and compared.

Results: With a median follow-up of 53.6 months (range, 14-74), the median PSA nadir and median slope for SBRT were 0.23 ng/mL and -0.430, -0.199, -0.127 and -0.094 ng/mL/month, respectively, for durations of 1, 2, 3 and 4 years following radiotherapy. Similarly, for CF-EBRT, the median PSA nadir and median slopes were 0.37 ng/mL and -0.529, -0.138, -0.109 and -0.056 ng/mL/month, respectively. The slope of CB-EBRT was significantly different with a greater median rate of change for 1 year post radiotherapy than that of SBRT (p=0.018). Contrastively, the slopes of SBRT for durations for 2, 3 and 4 years tended to be continuously greater than that of CB-EBRT (p=0.028, p=0.058 and p=0.128, respectively). The significantly lower PSA nadir was observed in SBRT (median nadir 0.23 ng/mL) compared with CB-EBRT (median nadir 0.37ng/mL) (p=0.011). 5-year biochemical failure (BCF) free survival were 100% for SBRT and 80.8% for CB-EBRT (p=0.031).

Conclusion: Patients treated with SBRT using Cyberknife experienced a lower PSA nadir and tended to be continuously greater rate of decline of PSA for duration 2, 3 and 4 years than CB-EBRT. The improved PSA kinetics of SBRT may help yield favorable BCF-free survival. Further studies with more patients and longer follow-up duration are required.

EP-1335
Prostate cancer hypofractionation: impact of prostate gland dimension in genitourinary toxicity
S. Fersino1, N. Giaj Levra1, R. Mazzola1, A. Fiorentino1, F. Ricchetti1, R. Ruggieri1, F. Alongi1
1Ospedale Sacro Cuore Don Calabria, Radiation Oncology, Negrar - Verona, Italy

Purpose or Objective: to analyze predictors of genitourinary (GU) toxicity in a cohort of prostate cancer (PC) patients treated with moderate hypofractionation and simultaneous integrated boost (SIB) using volumetric modulated arc therapy (VMAT) technique.

Material and Methods: Clinical and dosimetric data were prospectively collected and retrospectively analyzed. Patients were stratified into low (43%), intermediate (30%) and high-risk (27%) groups. Target volumes (expanded to define the planning volumes (PTV)) were clinical target volume (CTV) 1: prostate; CTV2: CTV1 + seminal vesicles; CTV3: CTV2 + pelvic nodes. Low-risk patients received 73.5 Gy to PTV1; Intermediate-risk 73.5 Gy to PTV1 and 60 Gy to PTV2; high-risk 73.5 Gy to PTV1, 60 Gy to PTV2, and 54 Gy to PTV3. All treatments were in 30 fractions. Androgen deprivation therapy (ADT) was prescribed upfront in intermediate and high risk patients. Rectal and GU toxicities were scored according to Common Terminology Criteria for Adverse Events v4.0 scoring system.

Results: From January 2012, 60 patients with localized PC were recruited in an internal protocol of moderate hypofractionation SIB scheme using VMAT technique with definitive intent. The median follow-up was 24 months (range 10 - 36 months). GU acute toxicity was recorded as follow: G0 = 16/60 (27%); G1 = 18/60 (30%); G2/3 = 26/60 (43%); no case of toxicity ≥ G3 was registered. GU late toxicity was recorded as follow: G0 = 20/60 (34%); G1 = 29/60 (48%); G2 = 11/56 (19%); no case of toxicity ≥ G3 was registered. The risk