background or short axis > 10 mm on PET-CT were considered pathologic. Nodes between 5-10 mm were considered pathologic if the nodes had an irregular shape/border, had lost its architecture or were inhomogeneous. Eight patients were treated with lymphadenectomy prior to chemoradiation and did not receive a nodal boost. The remaining 75 patients had a total number of 214 nodes boosted by EBRT (PTV-N) either as a simultaneous integrated boost (SIB) or as a sequential boost to 55-60 Gy. The elective whole pelvic target (PTV-E) was treated to 45-50 Gy (Table 1). PTV-E was extended to the para-aortic region (PAN) in case of pathological nodes in the common iliac region or higher. Concomitant Cisplatin was given to 95% of the patients. MRI was performed 3 and 12 months after completion of treatment in all patients, 82/140 of the patients also had a PET-CT at 3 months follow-up. Additional imaging was performed on clinical indication. The total dose to PTV-N was calculated by rigid registration of dose maps from elective EBRT, EBRT boost and IGABT to the planning CT scan. All doses were converted to EQD2 by the linear quadratic model (α/β = 10, repair halftime 1.5 h).

Results: Pathological lymph node volume was on average 1.5 cm³ (range 0.1-44.9) and average total dose was 62.4 Gy EQD2 (range 51.0-69.1). At a median follow-up time of 28 months (range 3-64) five recurrences were diagnosed inside the PTV-E. One patient had multiple recurrences involving PTV-N, PTV-E, as well as distant metastases. Two of the node positive patients had recurrences in both PTV-E and outside the PAN region. None of the 57 node negative patients experienced nodal recurrence in PTV-E. Nine patients (6%) recurred in PAN outside PTV-E without any other sites of recurrence. Four of these patients did not have nodal disease at time of diagnosis.

Conclusions: Both micro- and macroscopic nodal control in locally advanced cervical cancer is high with the currently used treatment schedules. Recurrences are mainly located outside the PTV in the PAN region. Due to the limited number of recurrences in boosted nodes it has not been possible to establish a dose response relationship.

PD-0438
Adjuvant volumetric modulated arc therapy with vaginal cuff simultaneous integrated boost in endometrial cancer
R. Mazzola¹, F. Ricchetti², S. Fersino², N. Giaj Levra³, A. Fiorentino⁴, R. Ruggieri⁴, M. Ceccaroni⁵, S. Gori⁶, F. Alongi⁷
¹Sacro Cuore Don Calabria Negrar- Verona University of Palermo, Radiation Oncology, Palermo, Italy
²Sacro Cuore Don Calabria Hospital, Radiation Oncology, Negrar Verona, Italy
³Sacro Cuore Don Calabria Hospital, Gynecology Oncology, Negrar Verona, Italy
⁴Sacro Cuore Don Calabria Hospital, Medical Oncology, Negrar Verona, Italy

Purpose/Objective: Volumetric Modulated Arc Therapy RapidArc® (VMAT) has shown to be able to maintain a good toxicity profile in pelvic irradiation (PRT). We present our experience in treating pelvis for post-operative endometrial cancer (EC) with VMAT and simultaneous integrated boost (SIB) on vaginal cuff in patients (pts) unable to receive vaginal brachytherapy (VB).

Materials and Methods: From September 2011 to December 2013, fifty consecutive pts, submitted to hysterectomy with bilateral salpingo-oophorectomy and pelvic lymphadenectomy for EC, were candidate to PRT and VB +/- chemotherapy, according to stratification risk category. All the pts recruited refused VB for logistic problems or because unable or not willing to receive such treatment. After a specific informed consent, a dose of 54 Gy to the pelvis and 66 Gy to the vaginal cuff in 30 fractions was delivered with SIB-VMAT technique. A 5 mm trans-vaginal probe and Magnetic Resonance Imaging were used to define vaginal cuff. All toxicity data were collected according to CTCAE v4.0; clinical outcomes were analyzed retrospectively.

Results: Median FUP was 36 months (range, 12 to 39 months). According to FIGO 2009, the most representative stages were: I (12% - 6/50), II (20% - 10/50), IIIa (28% - 14/50), IIIb (16% - 8/50), IIIc (6% - 3/50), IIIa (2% - 1/50), IVa (28% - 14/50). The 2-year-OS and 2-year-LC were 96% and 100%. The 3-year-OS and LC were 96% and 87%. The median DFS was 25 months (range, 12-30). No vaginal-cuff recurrence was registered. The only two loco-regional failures were pelvic-LNs metastases. Acute GI toxicity was registered as follow: G0 in 6 pts, G1 in 26 pts, G2 in 18 pts. No case of toxicity ≥ G3 was observed. Acute GU toxicity was: G0 in 5 pts, G1 in 21 pts, G2 in 24 pts. No case of toxicity ≥ G3 was observed. No late moderate - severe GI or GU toxicities were reported. A statistical correlation was found between acute G2 GI toxicity with Intestinal Cavity (IC) dose-constraints V20 Gy ≥ 30% (p-value = 0.02), V20 ≥ 40% (p = 0.02), V30 ≥ 30% (p = 0.004) and with IC-Dmax ≥ 45 Gy (p = 0.001). Regarding GU assessment, the risk to develop G2 acute toxicity is 3 times higher with adjuvant chemotherapy (p = 0.07).

Conclusions: In EC pts unable to receive VB or refusing to receive this treatment, SIB-VMAT could be a viable alternative. The present analyses showed promising findings. Further prospective studies are advocated.

PD-0439
Interstitial brachytherapy in gynaecologic malignancies with IPSA; an analysis of 100 MUPIT applications
P.S. Bhattacharyya¹, P. Chitambara¹, E.B. Rajmohan¹, S. Das¹
¹Mahatma Gandhi Cancer Hospital, Radiation Oncology, Visakhapatnam, India

RapidArc® (VMAT) has shown to be able to maintain a good toxicity profile in pelvic irradiation (PRT). We present our experience in treating pelvis for post-operative endometrial cancer (EC) with VMAT and simultaneous integrated boost (SIB) on vaginal cuff in patients (pts) unable to receive vaginal brachytherapy (VB).