Results: Locoregional recurrence was significantly lower in the short time-interval group (Fig. 1). Recurrence rate at 2 years was 11% (95%CI 3-36%) in the short time-interval group compared to 49% (95%CI 30-73%) in the long time-interval group. The stepwise Cox regression identified time-interval (a short interval is better), T90 (higher temperatures are beneficial) and age (younger age is unfavourable) as significant prognostic factors, and shows a favourable trend for lower FIGO stage (Table 1).

Overall survival was also significantly better in the short time-interval group (Fig. 1). Overall survival at 2 years was 60% (95%CI 39-75%) in the short group compared to 39% (95%CI 21-56%) in the long time-interval group. The stepwise Cox regression identifies a short time-interval and higher T90 as significant factors for a favourable outcome (Table 1).

Conclusion: A short time interval between EBRT and HT results in a significantly lower recurrence and better overall survival for locally advanced cervical cancer patients. Furthermore, a higher tumour temperature during HT is associated with lower locoregional recurrence and better overall survival, stressing the importance of HT quality assurance.

PO-0724 Adjuvant SIB-VMAT in endometrial cancer: a dose escalation study

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Purpose or Objective: To define the recommended dose in high-intermediate risk endometrial cancer (HIR-EC) patients postoperatively irradiated by simultaneous integrated boost volumetric modulated arc therapy (SIB-VMAT).

Material and Methods: A radiation dose of 45 Gy over 5 weeks, 1.8 Gy/fraction, was delivered to the vagina and the lymphatic drainage (planning target volume, PTV2). Radiation dose was escalated to the upper two thirds of vagina (PTV1) with the SIB-VMAT strategy, after 1 year follow up of the first 15 patients. Two dose levels were planned: Level 1 (PTV1: 45/1.8 Gy; PTV1: 55/2.2 Gy), and Level 2 (PTV1: 45/1.8 Gy; PTV1: 60/2.4 Gy). All treatments were delivered in 25 fractions. Patients were treated according to a Phase I-II dose-escalation study. Toxicity was scored by CTC-AE v. 3.0 scale.

Results: Sixty-six HIR-EC patients were enrolled. The Level 1 group included 38 patients while Level 2 group included 28 patients. Clinico-pathological characteristics of the two groups are reported in Table 1. All patients completed radiation treatment without interruption. No differences were found between the 2 groups in terms of skin, gastrointestinal and genitourinary toxicities.

With a median follow up of 20 months (range 3-48 months), no dose limiting toxicity was reported, therefore Level 2 was considered as the recommended dose. Three vaginal recurrences were documented at 8, 14 and 19 months after SIB-VMAT in Level 1 group. At two-years local control was 90.4% (Level 1), versus 100% (Level 2), while disease free survival was 85.6% (Level 1) versus 93.3% (Level 2); overall survival was 96.2% (Level 1) versus 100% (Level 2), respectively.

Conclusion: To date, according with this phase I-II study clinical results, SIB-VMAT strategy represents the standard adjuvant treatment in HIR-EC at our Institution. We established the dose of 45 Gy/1.8 Gy to pelvic nodes and 60 Gy/2.4 Gy to the upper two thirds of vagina as the recommended doses for further evaluation of SIB-VMAT approaches in this setting.

PO-0725 Pelvic organ motion during radiotherapy for cervical cancer and impact on target coverage

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Purpose or Objective: Minimisation of internal organ motion during pelvic radiotherapy (RT) is necessary to ensure accurate reproducible treatment. We analysed bladder and rectal filling during pelvic RT and their impact on CTV coverage.

Material and Methods: Cone beam Computed Tomography scans (CBCTs) taken twice weekly during 3D conformal RT were retrospectively analysed for 10 cervical cancer patients. All patients followed the departmental guidelines; empty bladder then drink 4 cups of water 40 minutes before...