

Supplementary materials

This appendix is provided for additional information about the authors' work.

Supplementary Material 1.

Search strategies

1. [(vaginal cuff) OR (vaginal vault)] AND boost OR (external beam radiotherapy boost) AND (endometrial neoplasm OR endometrial cancer)
2. (external beam radiotherapy boost) AND (endometrial neoplasm OR endometrial cancer) NOT brachytherapy
3. (endometrial cancer OR endometrial neoplasm) AND (external beam boost OR stereotactic body radiotherapy OR SBRT OR SABR OR volumetric-modulated arc therapy OR VMAT OR helical tomotherapy)

Supplementary Table 1. Planning studies on the comparison between external beam radiotherapy and brachytherapy in endometrial cancer

Author, year [Ref.]	Setting	No. of pts.	EBRT technique	Boost timing	Vaginal applicator	Comparisons	RT pelvic total dose (Gy)	RT boost total dose (Gy)	RT dose to the tumor or VC (Gy)	RT dose/fraction (Gy)	PTV
Aydogan <i>et al.</i> , 2006 [9]	A VC	10	IMRT	No boost	Vaginal cylinder	HDR-BRT	No RT	21	7 (1/week)	Upper 4 cm vagina (prescription point at cylinder surface or 5 mm from cylinder surface)	
Grelewicz <i>et al.</i> , 2018 [14]	A PNI + boost on VC	4	IMRT/VMAT	Seq.	Vaginal cylinder	HDR-BRT 6 Gy x 3 fx.	45/25 fx.	15	5	5 mm from cylinder surface (5 cm length)	
Yildirim <i>et al.</i> , 2019 [16]	A VC	12	VMAT (HT)/SBRT	No boost	Vaginal cylinder	HDR-BRT	No RT	25	5	5 mm from cylinder surface	
Cilla <i>et al.</i> , 2020 [15]	A VC	8	VMAT/SBRT	No boost	Vaginal cylinder	HDR-BRT	N.R.	30	6	CTV (5 mm from cylinder surface) + 3 mm	

A – adjuvant, CTV – clinical target volume, EBRT – external beam radiotherapy, fx. – fractions, Gy – Gray, HDR-BRT – high-dose-rate brachytherapy, HT – helical tomotherapy, IMRT – intensity-modulated radiotherapy, N.R. – not reported, pts. – patients, PTV – planning target volume, R – radical, RT – radiotherapy, Seq. – sequential, SIB – simultaneous integrated boost, VC – vaginal cuff, VMAT – volumetric modulated arc therapy, PNI – prophylactic nodal irradiation on the pelvis, * Prescribed at CTV (PTV was covered by 21 Gy in 4 fractions)

Supplementary Table 2. Clinical studies on the use of external beam radiotherapy instead of brachytherapy in endometrial cancer

Authors, year [Ref.]	Study design	No. of pts.	Stage	RT boost technique	Boost timing	Vaginal applicator	Comparisons	RT pelvic total dose (Gy)	RT boost total dose (Gy)	RT dose/fraction (Gy)	PTV	Clinical outcomes	Acute toxicity	Quality of evidence (grade)
Demiral <i>et al.</i> , 2013 [10]	Prospective	18	IB-IIIIC1	VMAT	Seq.	Vaginal cylinder	None	45/25 fx.	18	6 (1/week)	CTV (upper 2/3 vagina) + 5 mm	2-year LC: 100%	GI G1: 44.4% GI G2: 33.3% GU G1: 38.8% GU G2: 22.2%	Very low
Macchia <i>et al.</i> , 2014 [12]	Prospective	30	IA-IIIIC2	VMAT	SIB	None	3D sequential boost in a control group	45/25 fx.	55	Pelvis: 1.8 VC: 2.2	CTV (upper 2/3 vagina) + 8 mm	N.R.	GI G1: 50% GI G2: 16.7% GU G1: 56.7% GU G2: 6.7%	Very low
Alongi <i>et al.</i> , 2015 [11]	Prospective	50	IB1-IIIIC	VMAT	SIB	Vaginal probe	None	54/30 fx.	66	Pelvis: 1.8 VC: 2.2	CTV (upper 2/3 vagina) + 5 mm	2-year OS: 96% 2-year LC: 100%	GI G1: 52% GI G2: 36% GU G1: 42% GU G2: 48%	Low
Macchia <i>et al.</i> , 2016 [13]	Prospective (phase I-II)	70	IA-IIIIC2	VMAT	SIB	None	None (dose escalation study)	45/25 fx.	I level: 55 II level: 60	Pelvis: 1.8 VC: 2.2/2.4	CTV (upper 2/3 vagina) + 8 mm	3-year DFS: 81.3%	G3: 0.0%*, 2.8% GI G2: 17.1%* 28.6% GU G2: 11.4%*, 28.6%	Low

CTV – clinical target volume, fx. – fractions, Gy – Gray, IMRT – intensity-modulated radiotherapy, LRC – loco-regional recurrence, N.A. – not applicable, N.R. – not reported, OS – overall survival, PFS – progression-free survival, Pts. – patients, PTV – planning target volume, RT – radiotherapy, Seq. – sequential, SBRT – stereotactic body radiotherapy, SIB – simultaneous integrated boost, VC – vaginal cuff, VMAT – volumetric modulated arc therapy, * At 55 Gy / At 60 Gy