Impact of time to radiation therapy and therapeutic sequence in adjuvant settings in endometrial carcinoma: a multicentric retrospective study.

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Objective. Adjuvant treatment of endometrial carcinoma (EC) consists of radiation therapy (RT) and chemotherapy (CT). As ever shown in other cancers, the time to adjuvant treatment could have an impact on prognosis. The objective of this study was to state the impact of time to RT (TTR) and therapeutic sequence on prognosis and to assess variables associated with treatment delay.

Methods. We conducted a multicentric retrospective study in two cancer centers. We included EC patients, treated by adjuvant RT, possibly associated with CT, between January 1996 and January 2016. We searched variables associated with TTR and impact of TTR and adjuvant treatment sequence on end-points: local recurrence-free survival (LRFS), metastatic-free survival, event-free survival (EFS) and overall survival (OS).

Results. 329 patients were included. Robotic surgery was associated with shorter TTR (8 weeks vs 8.9w for laparotomy and 9.2w for laparoscopy). Pelvic lymphadenectomy, para-aortic lymphadenectomy, discussion in multidisciplinary meeting and treatment center was independently associated with TTR. No impact of TTR was shown on MFS, EFS and OS but there was a trend of a decreased LRFS in case of prolonged TTR ($HR_{\text{continuous variable}}=1.08$; IC95%: 0.97-1.2). We found no impact of adjuvant treatment sequence on end-points.

Conclusion. Robotic-assisted laparoscopy did not increase TTR. Prolonged TTR could moderate the benefit of RT on local control rate. TTR seems dependent of health-care organization and could represent a quality criterion of EC care for institutions.

Variables	TTR (weeks) - mean (standard deviation)	p
Surgery route		
Robotic surgery	8 (2)	0.03
Laparotomy	8.9 (3.6)	
Laparoscopy	9.2 (3.6)	
Pelvic lymphadenectomy		
Yes	8.6 (3.5)	0.08
No	9.3 (3.4)	
Lomboaortic lymphadenectomy		
Yes	10.9 (4.3)	0.0001
No	8.2 (3.1)	
Multidisciplinary meeting		
Yes	8.9 (3.5)	0.001
No	7 (3.2)	
Treatment center		
Center 1	9.3 (3.6)	0.009
Center 2	8.3 (3.4)	

Characteristic	n or median	Percentage or range
Age (years)	67	39-93
Weight (kg)	69	34-150
Hypertension	148	45%
Diabetes	48	14.6%
Medical history		
Breast cancer	40	12.2%
Colorectal cancer	7	2.1%
Tamoxifen use	14	4.3%
Metformine use	26	7.9%
Surgery		
Simple hysterectomy	242	73.6%
Radical hysterectomy	80	24.3%
Pelvic exenteration	3	0.9%
Bilateral annexectomy performed	324	98.5%
Pelvic lymphadenectomy performed	263	79.9%
Lomboaortic lymphadenectomy performed	65	19.8%
Surgery route		
Laparotomy	154	47.2%
Laparoscopy	79	24.2%
Robotic	92	28.2%
Vaginal	1	0.3%
Cases discuted in a multidisciplinary meeting	293	89.1%
EBRT		
Neoadjuvant	13	4%
Adjuvant	206	62.6%
No EBRT	110	33.4%
Vaginal brachytherapy		
Neoadjuvant	4	1.2%
Adjuvant	282	84.2%
No brachytherapy	45	13.7%
Chemotherapy		
Adjuvant	56	17%
Neoadjuvant	7	2.1%

Variables	HR	p
Pelvic lymphadenectomy		
Yes	1.45	0.02
No	1	
Lomboaortic lymphadenectomy		
Yes	0.46	<0.001
No	1	
Multidisciplinary meeting		
Yes	0.5	0.009
No	1	
Treatment center		
Center 1	1	<0.001
Center 2	1.66	