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Adjuvant and savage radiotherapy for prostate cancer in everyday clinical practice: differences between a tertiary and a private high-volume center

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INTRODUCTION

Radiotherapy plays a primary role as adjuvant radiotherapy (AR) after radical prostatectomy in high-risk prostate cancer and as savage radiotherapy (SR) at local/biochemical recurrence. EAU/ESTRO international guidelines recommend patient's selection criteria and PSA levels for both treatments. Nevertheless, the clinical scenarios in everyday clinical practice remain unknown.

The differences emerging in everyday clinical practice between a tertiary and a private high-volume radiotherapy center of the same city and the divergences from the European guidelines were retrospectively investigated.

MATERIAL AND METHODS

Unselected, consecutive patients treated between 2015 and 2017 with AR or SR after radical prostatectomy were enrolled.

A database was created including patients' characteristics, PSA levels before radiotherapy, Gleason Score, pTNM, surgical margins' status (R), concomitant hormonal therapy, treatment's dose, technique and schedule. PSA and adverse genitourinary (GU) and gastrointestinal (GI) events were recorded up to 3 months after radiotherapy (using CTCAE scale v4.03) to evaluate toxicity and efficacy. Inclusion criteria for adjuvant and savage radiotherapy were compared between the two centers and with EAU-ESTRO guidelines.

	Adjuvant RT		Savage RT	
	Center A	Center B	Center A	Center B
N. patients	27	31	23	15
pN (%)				
N0	17 (63,0 %)	16 (51,6 %)	13 (56,5 %)	11 (73,4 %)
N1	7 (25,9 %)	11 (35,5 %)	2 (8,7 %)	2 (13,3 %)
Nx	3 (11,1 %)	4 (12,9 %)	8 (34,8 %)	2 (13,3 %)
R Margins (%)				
R0	10 (37,0 %)	12 (38,7 %)	15 (65,2 %)	8 (53,3 %)
R1	17 (63,0 %)	19 (61,3 %)	8 (34,8 %)	7 (46,7 %)
Dose (Gy)				
Mean	63,7	72,5	64,11	71,49
Median	63,8	72,0	63,8	72,0
Range	60,9 - 64,4	66,0 - 78,4	63,8 - 66	66 - 76
N. sessions (dd)				
Mean	29	36	29	37
Median	29	37	29	37
Range	28 - 30	28 - 42	28 - 30	33 - 39
Duration (dd)				
Mean	44	53	42	54
Median	43	54	43	52
Range	38 - 51	37 - 64	32 - 48	47 - 61

Table 1: *Patients and treatments' characteristics*

RESULTS

96 patients were enrolled, 58 (60,4%) submitted to AR and 38 (39,6%) to SR in two centers (Center A and Center B) of the same city. Patients' characteristics are given in ***Table 1***. Higher pre-AR PSA values were evident in patients treated in Center B (median PSA 0,03 ng/mL vs 0,2 ng/mL, p=0,01) while pre-SR PSA levels were similar. Center A delivered lower doses with higher fractionation and with a reduced length of treatment. Median PSA values at 3 months were less than 0,1 ng/mL in both centers. No Grade 3 or 4 adverse effects were recorded. Lower GU toxicity was detected for patients undergoing AR in Center B (GU p=0,02; GI p=0,45) [***Figure 1 and 2***]. Comparing the inclusion criteria, several differences emerged between the two centers and with the EAU-ESTRO guidelines. In fact, according to EAU/ESTRO criteria, 29 (50%) of the 58 treatments classified in "real-life" practice as AR would be categorized as SR.

CONCLUSIONS

Marked differences in terms of inclusion criteria, PSA levels at start, technical equipment, timing, duration and doses emerged between two centers. Moreover, both centers strikingly diverged from guidelines.

In spite of the above-mentioned variances, no clinically relevant differences were detected in terms of PSA levels at 3 months both for AR and SR. Slight differences emerged in short-term GU Grade 1-2 toxicity for AR.

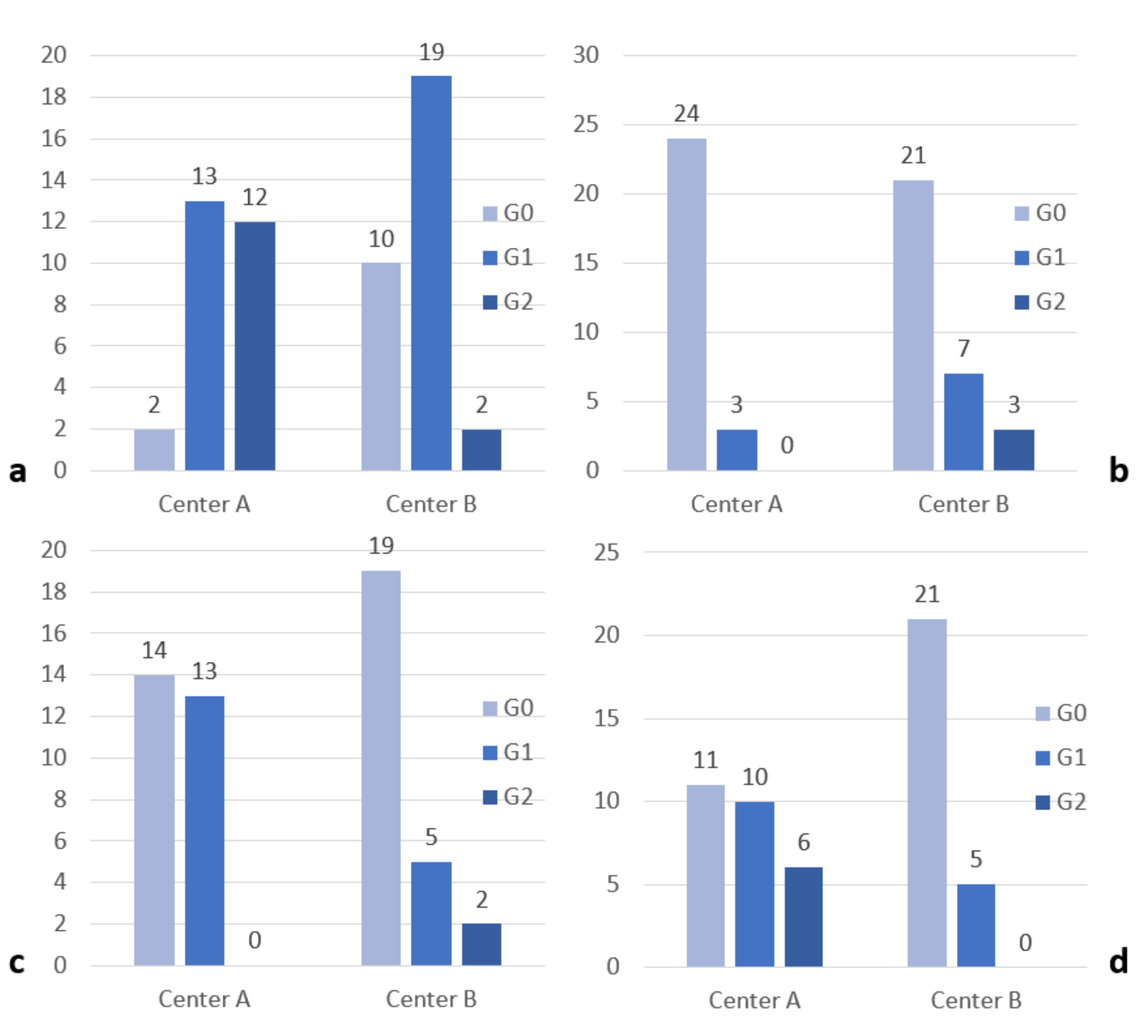

Figure 1:
(a) *GU during AR* **(b)** *GI during AR* **(c)** *GU up to 3 months* **(d)** *GI up to 3 months*

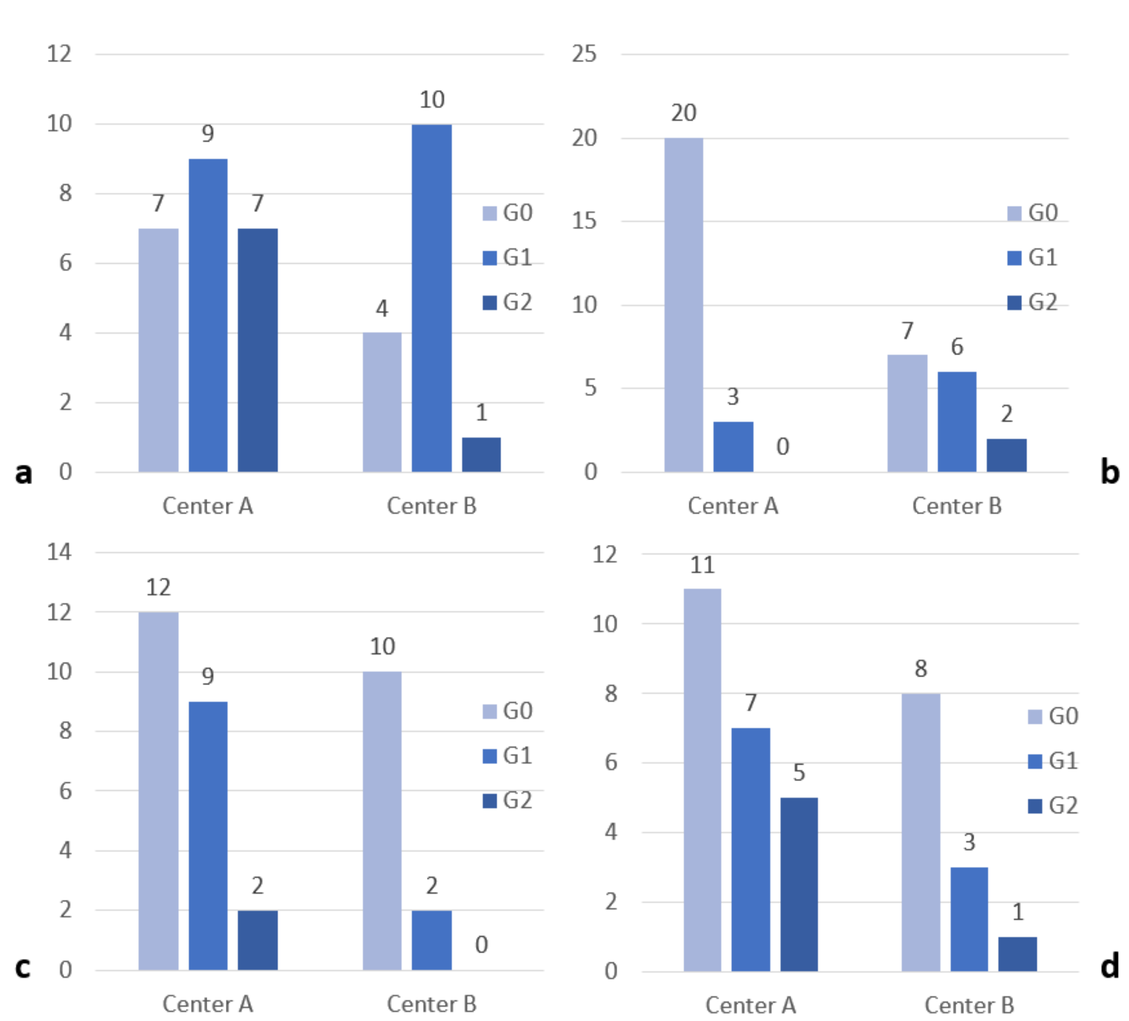

Figure 2:
(a) *GU during SR* **(b)** *GI during SR* **(c)** *GU up to 3 months* **(d)** *GI up to 3 months*

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