

Site-specific relapse of 243 patients with biochemical recurrence following radical prostatectomy assessed by 68Ga-PSMA-11 or 11C-choline PET/CT

Gaëtan Devos  
Manuel Witters  
Steven Joniau

BAU2018  
18<sup>th</sup> ANNUAL CONGRESS  
BELGIAN ASSOCIATION OF UROLOGY  
Dixler - La Hulpe/Herbeussem 7 & 8 DECEMBER 2018

EAU Guidelines 2018

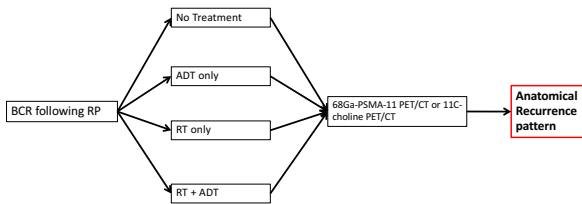
Prostate-specific antigen (PSA) recurrence after radical prostatectomy decisions.	LE	Strength rating
Perform imaging only if the outcome will influence subsequent treatment decisions.		Strong
If the PSA level is $\geq 1$ ng/mL, perform a prostate-specific membrane antigen positron emission tomography computed tomography (PSMA PET/CT), if available, or a choline PET/CT imaging otherwise.	2b	Weak

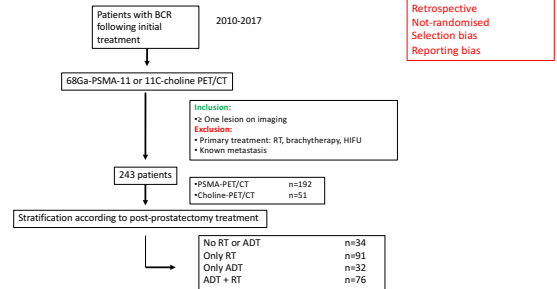
Local salvage treatment	Strength rating
<b>Recommendations for biochemical recurrence after radical prostatectomy</b> Offer active surveillance and possibly delayed salvage radiotherapy (SRT) to patients with biochemical recurrence and favourable prognostic factors ( $\leq$ pT3a, time to biochemical recurrence > three year, prostate-specific antigen doubling-time (PSA-DT) > twelve months, Gleason score $\leq$ 7), who may not benefit from intervention.	Strong
Treat patients with a PSA rise from the undetectable range with SRT. The total dose of SRT should be at least 66 Gy and should be given early (PSA < 0.5 ng/mL).	Strong

→ Salvage treatment without imaging in patients with PSA <1ng/ml + BCR develops also postradiotherapy

Hypothesis:



Methods



Patient characteristics

Number of patients	N=243	RT (salvage/adjunct) prior to scan; (%)	None	66 (27.2%)
Median age (years) at RP (IQR)	62 (56-66)	Adjuvant	90 (37%)	
Pathological T stage; (%)		Salvage	77 (31.7%)	
T2	76 (31.3%)	Unknown	10 (4.1%)	
T3a	79 (30%)			
T3b-c	69 (28.4%)			
Tx	25 (10.3%)			
Pathological N stage; (%)		RT field; (n=167)		
N0	133 (54.7%)	Prostate bed	106(63.4%)	
N1	38 (15.6%)	Prostate bed + pelvis	51(30.5%)	
Nx	72 (29.6%)	Unknown	10(6%)	
Pathological Gleason score; (%)		Postoperative treatment (%)		
G5	12 (4.9%)	Prior RT without ADT	91 (37.4%)	
G7	81 (32.9%)	ADT without prior RT	32 (13.2%)	
G8	65 (26.7%)	Prior RT + ADT	76 (22.9%)	
G9-10	35 (14.2%)	No prior RT + No ADT	34 (14%)	
Unknown	36 (14.8%)	Unknown	10 (4.1%)	
Median PSA at time of scan (ng/mL); (IQR)	1.67 (0.54-4.36)	Median time from RP until positive imaging (months) (IQR)	79.5 (33-138)	
ADT prior to scan; (%)		Number of lesions on imaging; (%)		
Yes	99 (40.7%)	1	127(56.4%)	
No	132 (54.3%)	2	44(18.1%)	
Unknown	12 (5%)	3	37(13.7%)	
ADT at time of scan; (%)		≥4	30(12.3%)	
Yes	67 (27.6%)			
No	166 (68.3%)			
Unknown	10 (4.1%)			

Lesion-based mapping of all patients

	Total population
	N=243
A. Local (prostate bed); (%)	28(11.5%)
B. Lymph node recurrence; (%)	184(75.7%)
B.1. Distal to common iliac bifurcation; (%)	113(46.5%)
C. Iliac communis and peroneal; (%)	46(18.9%)
D. Retroperitoneal; (%)	68(28%)
E. Perirectal; (%)	7(2.9%)
F. Inguinal; (%)	2(0.8%)
G. Thorax; (%)	9(3.7%)
M. Supraclavicular; (%)	13(5.3%)
Bone; (%)	47(19.3%)
I. Axial; (%)	38(15.6%)
J. Appendicular; (%)	19(7.8%)
K. Visceral; (%)	10(4.1%)

50% of the patients had recurrence outside the pelvis

### Lesion-based mapping according to postoperative therapy

	No ADT or RT (Reference group) N=34	RT only N=91	ADT only N=32	RT+ADT (combination group) N=76
A. Local (prostate bed) (%)	0	4(4.3%)	10(31.3%)	13(17.1%)
Lymph node				
recurrence (%)	22(79.4%)	79(86.8%)	12(37.5%)	52(68.4%)
B. Distal to common iliac bifurcation (%)	21(61.8%)	53(58.2%)	12(37.5%)	35(46%)
C. Iliac common and proximal (%)	2(5.9%)	23(25.3%)	3(9.4%)	13(17.1%)
D. Para-aortic (%)	11(32.4%)	25(27.5%)	9(28.1%)	26(34.2%)
E. Periaortic (%)	2(5.9%)	11(12.1%)	11(34.4%)	16(21.1%)
F. Inguinal (%)	0	11(12.1%)	0	11(14.5%)
G. Thoracic (%)	0	11(12.1%)	2(6.2%)	13(17.1%)
H. Supraclavicular (%)	0	2(2.2%)	2(6.2%)	4(5.3%)
Bone (%)	6(17.6%)	10(11%)	9(28.1%)	22(28.9%)
L. Axial (%)	6(17.6%)	8(8.8%)	8(25%)	16(21.1%)
B. Appendicular (%)	0	2(2.2%)	1(3.1%)	3(4%)
C. Pelvic (%)	0	0	0	0
D. Metastatic (%)	0	0	0	0

