

Supplementary Online Content

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eTable 1. PROSTQA Cohort Pretreatment Patient and Disease Characteristics and Treatment Details According to Planned Primary Prostate Cancer Treatment and Whether or Not They Completed a 2-Year Interview

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. PROSTQA Cohort Pretreatment Patient and Disease Characteristics and Treatment Details According to Planned Primary Prostate Cancer Treatment and Whether or Not They Completed a 2-Year Interview

Characteristic	Respondent at 2 years				Nonrespondent at 2 years (All) (N=174)	P-value+
	Prostatectomy (n=524)	External Radiotherapy (n=241)	Brachytherapy (n=262)	All (N=1027)		
Age at enrollment						
Median, IQR	60 (56-65)	70 (63-74)	66 (61-71)	63 (58-69)	63 (58-70)	0.98
<50	38 (7)	1 (0)	8 (3)	47 (5)		
50-59	221 (42)	33 (14)	46 (18)	300 (29)		
60-69	224 (43)	95 (39)	129 (49)	448 (44)		
70+	41 (8)	112 (46)	79 (30)	232 (23)		
Race						0.02
White	480 (92)	200 (83)	226 (86)	906 (88)	140 (81)	
African-American	25 (5)	35 (15)	28 (11)	88 (9)	26 (15)	
Other/Unknown	19 (4)	6 (2)	8 (3)	23 (2)	7 (4)	
Married/living together	457 (87)	188 (78)	209 (80)	854 (83)	137 (79)	0.16
College graduate	329 (63)	134 (56)	152 (58)	615 (60)	81 (47)	<.001
BMI (kg/m ²)						
Median, IQR	27 (25-30)	28 (25-31)	28 (25-31)	28 (25-31)	28 (26-32)	0.07
<25	128 (24)	58 (24)	57 (22)	243 (24)		
25-29.9	260 (50)	114 (47)	119 (45)	493 (48)		
30-34.9	101 (19)	43 (18)	68 (26)	212 (21)		
35+	35 (7)	26 (11)	18 (7)	79 (8)		

eTable 1 (Continued)

Characteristic	Respondent at 2 years				Nonrespondent at 2 years (All) (N=174)	P-value+
	Prostatectomy (n=524)	External Radiotherapy (n=241)	Brachytherapy (n=262)	All (N=1027)		
Number of comorbidities						<0.01
0	229 (44)	62 (26)	69 (26)	360 (35)	55 (32)	
1	174 (33)	83 (34)	104 (40)	361 (35)	47 (27)	
2	83 (16)	58 (24)	60 (23)	201 (20)	39 (22)	
3+	38 (7)	38 (16)	29 (11)	105 (10)	33 (19)	
AUA SI; Median, IQR	6 (3-11)	6 (3-10)	5 (2-8)	5 (3-10)	6 (3-12)	0.26
Prostate volume; Median, IQR	40 (30-53)	42 (30-59)	35 (28-47)	39 (30-53)	38 (30-56)	0.94
PSA (ng/mL)						
Median, IQR	6 (4-8)	6 (4-10)	5 (4-7)	6 (4-8)	6 (5-8)	0.16
<4	116 (22)	39 (16)	55 (21)	210 (20)		
4 - <10	342 (65)	147 (61)	191 (73)	680 (66)		
10+	66 (13)	55 (23)	16 (6)	137 (13)		
Clinical T-stage						0.13
T1	375 (72)	165 (68)	216 (82)	756 (74)	137 (79)	
T2	149 (28)	76 (32)	46 (18)	271 (26)	36 (21)	
Biopsy Gleason						0.71
2-6	318 (61)	107 (44)	201 (77)	626 (61)	101 (58)	
7	181 (35)	100 (41)	60 (23)	341 (33)	63 (36)	
8-10	25 (5)	34 (14)	1 (0)	60 (6)	9 (5)	
Risk group*						0.65
Low	276 (53)	84 (35)	186 (71)	546 (53)	86 (49)	
Intermediate	206 (39)	107 (44)	72 (27)	385 (37)	71 (41)	
High	42 (8)	50 (21)	4 (2)	96 (9)	16 (9)	

eTable 1 (Continued)

Characteristic	Respondent at 2 years				Nonrespondent at 2 years (All) (N=174)	P-value+
	Prostatectomy (n=524)	External Radiotherapy (n=241)	Brachytherapy (n=262)	All (N=1027)		
Pre-treatment EPIC sexual functioning score; Median, IQR	83 (67-100)	70 (39-83)	76 (47-92)	79 (96-100)		
Treatment-specific Details						
No nerve sparing	43 (8)			--	8 (10)	0.52
Pelvic lymph nodes treated		30 (12)		--	7 (14)	0.44
Seminal vesicles treated		173 (72)		--	29 (74)	1.00
Intensity modulation (IMRT)		201 (83)		--	34 (87)	0.81
Neoadjuvant hormonal therapy		74 (31)	17 (6)**	91 (18)	20 (21)	0.48
Adjuvant external beam			17 (6)**	--	3 (7)	1.00
Planned seeds; Median, IQR			88 (74-106)	--	92 (74-109)	0.76

Values are number (%) unless otherwise specified; may not add to total number of patients because of occasional missing values.

Treatment groups differed in distributions of age, race, marital/living status, education, number of comorbidities, prostate volume, PSA, clinical stage, Gleason score, risk group and pre-treatment sexual functioning score (each $P < 0.01^3$). Patients electing prostatectomy were more likely to be younger, be Caucasian, be living with a partner, have a college education, and have fewer co-morbidities. Those electing external radiation were generally older and had the greatest cancer severity. Brachytherapy patients had lower risk cancers and smaller prostates.

Centers where patients were enrolled in PROSTQA include Beth Israel Deaconess Medical Center, University of Michigan, Washington University, MD Anderson Cancer Center, Cleveland Clinic, University of California- Los Angeles, Providence Hospital, Massachusetts General Hospital, and Brigham and Women's Hospital)

The Prostatectomy group includes 337 (64%) men who underwent open prostatectomy, 92 (18%) who underwent laparoscopic prostatectomy, and 95 (18%) who underwent robot-assisted laparoscopic prostatectomy.

*D'Amico risk group combines PSA, Gleason score, clinical T-stage.

**Among 262 men planning brachytherapy, monotherapy was planned for 233 and 29 planned combination therapy (12 with neoadjuvant hormonal therapy; 12 with adjuvant external beam; 5 with both hormonal therapy and adjuvant external beam). Men receiving combined modality radiation were considered to receive brachytherapy as primary treatment with adjuvant external-beam treatment.

+ Age, BMI, PSA, prostate size, AUA SI, baseline sexual functioning score compared between respondents and non-respondents at 2 years using Wilcoxon rank sum tests; race, marital/living status, college, number comorbidities, clinical T-stage, Gleason, risk group compared using Fisher's exact tests.

Abbreviations: IQR=interquartile range; BMI=body mass index; PSA=prostate specific antigen; AUA SI=American Urological Association symptom index

eTable 2. Summary of Erection Quality Prior to and at 2 Years After Treatment According to Planned Primary Prostate Cancer Treatment, in the PROSTQA Cohort

Erection Quality	Prostatectomy (n=524)	External Radiotherapy (n=241)	Brachytherapy (n=262)	All (N=1027)
Pre-treatment				
Unknown	14	13	17	44
None at all	19 (4)	37 (16)	24 (10)	80 (8)
Not for any sexual	26 (5)	28 (12)	22 (9)	76 (8)
Masturbation only	41 (8)	42 (18)	35 (14)	118 (12)
Firm enough for intercourse	424 (83)	121 (53)	164 (67)	709 (72)
2 Years Post-treatment				
Unknown	13	12	15	40
None at all	155 (30)	76 (33)	50 (20)	281 (28)
Not for any sexual	70 (14)	26 (11)	41 (17)	137 (14)
Masturbation only	109 (21)	43 (19)	49 (20)	201 (20)
Firm enough for intercourse	177 (35)	84 (37)	107 (43)	368 (37)

Values are number (%), excluding unknowns. Among those who then underwent open prostatectomy, functional erections firm enough for intercourse were reported pre-treatment by 282 (86%) and at 2 years post-treatment by 131 (39%). Among those who underwent laparoscopic prostatectomy, erections firm enough for intercourse were reported pre-treatment by 65 (73%) and at 2 years post-treatment by 22 (24%). Among those who underwent robot-assisted laparoscopic prostatectomy, functional erections firm enough for intercourse were reported pre-treatment by 77 (83%) and at 2 years post-treatment by 24 (25%)

eTable 3. Summary of Patients With Functional Erections at 2 Years After Treatment, by Pretreatment Patient and Disease Characteristics and Treatment Details, and Univariable Logistic Regression Results, According to Planned Primary Cancer Treatment in the PROSTQA Cohort

Characteristic	Percent of Patients With Functional Erections at 2 years Posttreatment					
	Prostatectomy (n=524)		External Radiotherapy (n=241)		Brachytherapy (n=262)	
	%	P-value	%	P-value	%	P-value
<i>All patients</i>	177 (35)	--	84 (37)	--	107 (43)	--
Age at enrollment		<0.001		0.04		<0.001
<50	21 (55)		1 (100)		6 (75)	
50-59	92 (43)		17 (52)		30 (67)	
60-69	61 (27)		35 (39)		54 (44)	
70+	3 (8)		31 (30)		17 (24)	
Race		0.43		0.45		0.45
White	158 (34)		68 (36)		91 (42)	
Other	4 (40)		-		1 (33)	
African-American	10 (42)		14 (42)		13 (50)	
Married/living together		0.27		0.40		0.98
No	26 (41)		19 (42)		22 (43)	
Yes	150 (34)		65 (36)		85 (43)	
College graduate		0.36		0.32		0.03
No	60 (32)		41 (40)		35 (35)	
Yes	117 (36)		43 (34)		72 (49)	
BMI (kg/m ²)		0.31		0.89		0.26
<25	47 (37)		19 (34)		29 (54)	
25-29.9	92 (37)		41 (37)		45 (41)	
30-34.9	30 (30)		16 (41)		28 (43)	
35+	8 (24)		8 (33)		5 (29)	
Number of comorbidities		<0.001		0.19		0.001
0	101 (45)		29 (48)		39 (63)	
1	48 (28)		26 (33)		43 (43)	
2	23 (28)		18 (32)		19 (34)	
3+	5 (14)		11 (31)		6 (21)	

eTable 3 (Continued)

Characteristic	Percent of Patients With Functional Erections at 2 years Posttreatment					
	Prostatectomy (n=524)		External Radiotherapy (n=241)		Brachytherapy (n=262)	
	%	P-value	%	P-value	%	P-value
AUA SI		0.04		0.05		0.81
Mild (0-7)	119 (39)		60 (43)		79 (45)	
Moderate (8-19)	48 (28)		23 (28)		28 (41)	
Severe (20+)	10 (29)		1 (17)		-	
Prostate volume (cc)		0.07		0.51		0.93
<30	48 (42)		15 (35)		32 (45)	
30-53	95 (35)		43 (40)		56 (42)	
>53	33 (28)		24 (32)		18 (44)	
PSA (ng/mL)		0.01		0.06		0.53
<4	46 (41)		20 (54)		24 (44)	
4-<10	119 (36)		48 (34)		79 (44)	
10+	12 (19)		16 (31)		4 (29)	
Risk group*		0.04		0.03		0.14
Low	107 (40)		34 (43)		46	
Intermediate	58 (29)		41 (39)		38	
High	12 (29)		9 (20)		-	
Pre-treatment EPIC sexual functioning		<0.001		<0.001		<0.001
Quartile 1 (<54)	4 (5)		10 (13)		5 (7)	
Quartile 2 (54-78)	24 (24)		16 (28)		17 (34)	
Quartile 3 (79-90)	47 (36)		31 (57)		22 (54)	
Quartile 4 (91-100)	100 (51)		26 (74)		60 (83)	
Treatment-specific Details						
Nerve-sparing technique		0.004				
No nerve sparing	5 (13)					
Nerve sparing	172 (37)					
Pelvic lymph nodes treated				0.31		
No			73 (37)			
Yes			8 (28)			

eTable 3 (Continued)

Characteristic	Percent of Patients With Functional Erections at 2 years Posttreatment					
	Prostatectomy (n=524)		External Radiotherapy (n=241)		Brachytherapy (n=262)	
	%	P-value	%	P-value	%	P-value
Seminal vesicles treated				0.24		
No			25 (42)			
Yes			56 (34)			
Intensity modulation (IMRT)				0.22		
No			15 (45)			
Yes			66 (34)			
Neoadjuvant hormonal therapy				<0.001		0.58
No			70 (44)		99 (43)	
Yes			14 (20)		8 (50)	
Adjuvant external beam						0.97
No					100 (43)	
Yes					7 (44)	
Planned seeds						0.13
Below median (≤ 88)					61 (48)	
Above median (> 88)					45 (38)	

Values are number (%). P-values are from univariable logistic regression models testing the association of each factor with functional erections at 2-years after treatment, separately according to treatment.

*D'Amico risk group combines PSA, Gleason score, clinical T-stage.

Abbreviations: BMI=body mass index; PSA=prostate specific antigen; AUA SI=American Urological Association symptom index

eTable 4. CaPSURE Cohort Pretreatment Patient and Disease Characteristics and Treatment Details According to Planned Primary Prostate Cancer Treatment

Characteristic	Prostatectomy (n=1308)	External Radiotherapy (n=247)	Brachytherapy (n=358)	All (N=1913)
Age at diagnosis				
Median, IQR	62 (57-67)	72 (68-76)	69 (64-74)	64 (59-70)
< 50	50 (4)	1 (0)	4 (1)	55 (3)
50-59	368 (28)	10 (4)	30 (8)	408 (21)
60-69	673 (51)	57 (23)	135 (38)	865 (45)
70+	217 (17)	179 (72)	189 (53)	585 (31)
Race				
White	1214 (93)	227 (92)	333 (93)	1774 (93)
African-American	54 (4)	18 (8)	12 (3)	84 (4)
Other	40 (3)	2 (1)	13 (4)	55 (3)
BMI (kg/m ²)				
Median, IQR	27 (25-29)	27 (24-29)	26 (24-29)	27 (24-29)
<25	310 (24)	69 (29)	100 (28)	479 (26)
25-34.9	920 (72)	155 (66)	232 (66)	1307 (70)
35+	57 (4)	12 (5)	19 (5)	88 (5)
Unknown	21	11	7	39
PSA (ng/mL)				
Median, IQR	5.4 (4-7)	7.5 (5-12)	5.7 (4-7)	5.6 (4-8)
<4	252 (20)	26 (11)	61 (17)	339 (18)
4 - <10	861 (68)	130 (54)	256 (73)	1247 (66)
10+	156 (12)	85 (35)	33 (9)	274 (14)
Unknown	39	6	8	53

eTable 4 (Continued)

Characteristic	Prostatectomy (n=1308)	External Radiotherapy (n=247)	Brachytherapy (n=358)	All (N=1913)
Sexual functioning score*				
Pre-treatment; Median, IQR	66 (42-81)	34 (13-63)	48 (20-72)	61 (31-78)
2 yrs post-treatment; Median, IQR	27 (9-52)	16 (0-42)	24 (7-53)	24 (7-51)
Functional Erections				
Pre-treatment	860 (66)	82 (33)	170 (47)	1112 (58)
2 years post-treatment	294 (22)	38 (15)	96 (27)	428 (22)
Treatment -specific Details				
Nerve-sparing technique				
Nerve sparing	885 (81)			
No nerve sparing	208 (19)			
Unknown	215			
Neoadjuvant hormonal therapy		164 (66)		

Values are number (%), excluding unknowns, unless otherwise specified.

*UCLA-PCI sexual functioning score available for (n=1289, n=240, n=350, n=1879 respectively) at pre-treatment, and for (n=1289, n=229, n=340, n=1858 respectively) at 2 years post-treatment.

Characteristics that differed between CaPSURE respondents and non-respondents at 2 years included race, relationship status, education, biopsy gleason, and nerve-sparing.

Abbreviations: IQR=interquartile range; BMI=body mass index; PSA=prostate specific antigen.