Hematologic dysfunction and myeloid neoplasm risk in patients treated with lutetium-177 prostate-specific antigen membrane therapy

Authors

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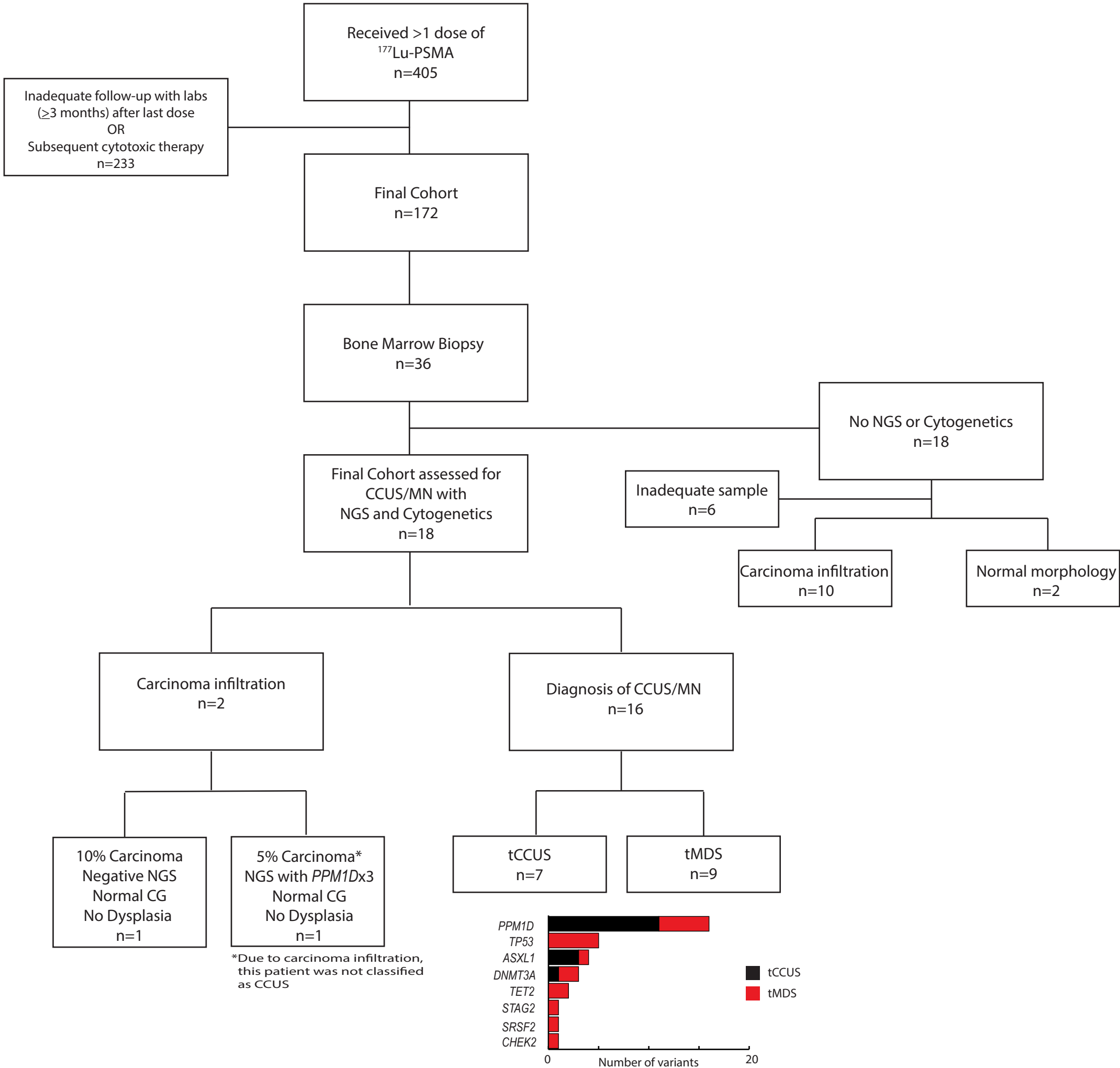
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Supplemental Material

Supplemental Tables

Supplemental Table 1. Labs at baseline and 3, 6, 12 months post-last 177Lu-PSMA.

	Baseline	3 month	p value	6 month	p value	12 month	p value
WBC			< 0.001		< 0.001		0.034
N	162	145		113		45	
Median (Q1, Q3)	6.0 (4.8, 7.7)	5.0 (3.6, 6.3)		5.0 (3.8, 6.8)		5.1 (4.1, 7.2)	
Mean (SD)	6.7 (4.1)	5.2 (1.9)		5.5 (2.5)		5.7 (2.6)	
Range	2.1 - 45.9	1.4 - 12.7		0.4 - 16.5		1.4 - 15.2	
Leukopenia			0.018		0.066		1
	13 (8.0%)	29 (20.0%)		18 (15.9%)		5 (11.1%)	
Hgb			< 0.001		< 0.001		< 0.001
N	162	145		111		44	
Median (Q1, Q3)	12.1 (11.1, 13.2)	10.8 (9.4, 12.3)		10.7 (9.2, 11.9)		11.1 (9.7, 12.2)	
Mean (SD)	12.2 (1.6)	10.8 (1.9)		10.6 (1.8)		10.7 (2.3)	
Range	7.9 - 17.9	6.6 - 15.2		7.0 - 14.5		2.2 - 15.2	
Anemia			< 0.001		< 0.001		0.003
	68 (42.0%)	101 (69.7%)		84 (75.7%)		32 (72.7%)	
Anemia Grade							
N	162	145		111		44	
Grade 1	56 (34.5%)	49 (33.8%)		42 (37.8%)		18 (40.9%)	
Grade 2	11 (6.8%)	40 (27.5%)		30 (27.0%)		8 (18.2%)	
Grade 3	1 (0.6%)	12 (8.3%)		12 (10.8%)		6 (13.6%)	
ANC			0.003		0.017		0.746
N	158	116		90		39	
Median (Q1, Q3)	3.9 (3.0, 5.3)	3.6 (2.5, 4.7)		3.4 (2.5, 4.9)		3.4 (2.7, 5.2)	
Mean (SD)	4.3 (2.0)	3.7 (1.7)		3.9 (2.0)		4.0 (2.0)	
Range	0.0 - 12.9	0.0 - 10.6		0.0 - 10.2		0.0 - 8.7	
Neutropenia			0.343		0.683		0.617
	9 (5.7%)	15 (12.9%)		7 (7.8%)		3 (7.7%)	
Neutropenia Grade							
N	158	116		90		39	
Grade 1	3 (1.9%)	7 (6.0%)		2 (2.2%)		2 (5.1%)	
Grade 2	3 (1.9%)	5 (4.3%)		2 (2.2%)		0 (0.0%)	
Grade 3	0 (0.0%)	0 (0.0%)		0 (0.0%)		0 (0.0%)	
Grade 4	3 (1.9%)	3 (2.6%)		3 (3.3%)		1 (2.5%)	
PLT			< 0.001		< 0.001		0.091
N	160	141		108		41	
Median (Q1, Q3)	208.0 (167.0, 245.0)	162.0 (112.0, 205.0)		157.0 (107.8, 208.0)		147.0 (135.0, 207.0)	
Mean (SD)	208.9 (63.3)	161.6 (67.5)		160.8 (69.4)		182.0 (92.5)	
Range	28.0 - 387.0	31.0 - 346.0		18.0 - 341.0		68.0 - 591.0	
Thrombocytopenia			< 0.001		< 0.001		0.182
	16 (10.0%)	52 (36.9%)		35 (32.4%)		10 (24.4%)	
Thrombocytopenia Grade							
N	160	141		108		41	
Grade 1	12 (7.5%)	36 (25.5%)		21 (19.4%)		9 (21.9%)	
Grade 2	3 (1.8%)	12 (8.5%)		5 (4.6%)		1 (24.3%)	
Grade 3	1 (0.6%)	4 (2.8%)		8 (7.4%)		0 (0.0%)	
Grade 4	0 (0.0%)	0 (0.0%)		1 (0.9%)		0 (0.0%)	
MCV			< 0.001		< 0.001		0.004
N	162	143		109		43	
Median (Q1, Q3)	95.0 (91.8, 99.6)	96.6 (91.8, 102.0)		98.0 (92.5, 103.5)		98.8 (94.0, 103.3)	
Mean (SD)	95.8 (7.0)	97.3 (7.2)		98.7 (8.5)		98.6 (7.7)	
Range	74.8 - 116.7	82.9 - 122.5		80.1 - 123.4		80.4 - 124.4	
RDW			0.322		0.034		0.126
N	155	130		100		39	
Median (Q1, Q3)	13.8 (13.0, 14.9)	14.1 (13.1, 15.3)		14.1 (13.1, 15.6)		13.6 (13.1, 15.4)	
Mean (SD)	14.3 (2.1)	14.5 (2.1)		14.8 (2.5)		14.7 (2.7)	
Range	11.8 - 28.5	11.8 - 22.5		11.9 - 26.2		12.1 - 25.1	

Supplemental Table 2. Associations between baseline labs, age and prior treatments.

Baseline Status	Cytopenia (any)	Anemia	Thrombocytopenia	Leukopenia	Neutropenia
Age	0.440	0.441	0.598	0.048	0.423
Prior Treatments					
Taxol	0.466	0.467	0.691	0.640	0.510
Platinum	0.288	0.155	0.234	1.000	1.000
PARPi	**0.012**	**0.011**	**0.044**	0.076	0.583
Radium	**0.033**	**0.013**	0.087	0.226	1.000
RT	0.153	0.100	0.647	0.903	0.524

Supplemental Figures

Supplemental Figure 1. Flowchart of patients treated with 177Lu-PSMA who were included in the study. Of the 36 patients who had a BMB performed, 18 had both NGS and cytogenetics available for analysis. Prostate carcinoma cells were identified in 2 patients, one of which had 3 PPM1D variants detected on NGS without dysplasia.