

INTRODUCTION

Immunosuppressed organ transplant patients have an elevated risk of malignancies. In this study we aim to determine the incidence of prostate cancer (PCa) in renal transplant recipients, as well as to evaluate their monitoring, treatment and oncological outcomes.

MATERIALS AND METHODS

We conducted a retrospective review of data from 1835 male patients who underwent renal transplantation between January 1987 and December 2016. Recipients presenting PCa were evaluated regarding the type of histology, age, posttransplant duration, immunosuppressive regimens, allograft functional status and PSA value. We retrospectively assessed the stage of the disease, treatment performed and consequent oncologic outcome. Patients with a history of pre-existing cancers were excluded.

CONCLUSION

There appears to be an increased incidence of PCa in this population. These tumors can be approached in the same way as in the general population, and due to the potentially worse prognosis related to immunosuppression, a more regular follow-up is required in this specific population.

RESULTS

- The incidence of PCa in men with renal grafts was **1.6%**.
- Twenty-four patients (82.8%) were diagnosed with **prostatic biopsy** and five (17.2%) were detected **incidentally** by transurethral resection of prostate.
- The overall survival rates at 1, 5 and 10 years after PCa diagnosis were 86.2%, 86.2% and 79.3%, respectively.
- Only **one patient** died of PCa.
- Radical prostatectomy was performed in 19 patients (65.5%) and radiation therapy in 5 (17.2%).
- One patient presented with **osseous metastases** and was managed with androgen deprivation with luteinizing hormone releasing hormone agonists.

Table 1 General features

PCa incidence	1.6%
Mean age at transplantation	53.4±10.7 years (range, 29-69)
Mean age at diagnosis	62.6±6.1 years (range, 50-73 years)
Mean time between renal transplantation and PCa diagnosis	108±85 months
Median PSA level at diagnosis	7.4 ng/ml (range, 1-780 ng/ml).
Localized disease	28 patients (96.6%)

Table 2 Clinicopathological characteristics of PCa patients

Age at renal transplant (years)	Age at PCa diagnosis (years)	PSA at diagnosis (ng/ml)	Time from transplant to PCa diagnosis (months)	Pathological Stage (radical prostatectomy)	Gleason Score	Treatment	Current graft function	Status
49	64	7.4	192	pT2cNx	7 (3+4)	RP	Failed	Alive
66	67	16	17	pT3bN0	9 (4+5)	RP	Good	Alive
69	69	16	2	pT2cN0	7 (4+3)	RP	Failed	Deceased
62	71	6.15	100	n/a	n/a	RT	Failed	Alive
53	53	1	2	pT2aNx	6 (3+3)	RP	Good	Alive
34	54	6.1	235	pT3aN0	6 (3+3)	RP	Good	Alive
44	56	9.2	145	pT3aNx	7 (3+4)	RP	Good	Alive
63	65	7.7	25	pT3aNx	7 (3+4)	RT	Good	Alive
42	53	35.9	108	n/a	n/a	RP	Failed	Alive
64	64	5.4	4	pT2cN0	7 (3+4)	RT	Failed	Alive
58	65	5.3	84	n/a	n/a	RT	Good	Alive
58	68	11.7	140	n/a	n/a	AS	Good	Alive
43	68	1	181	n/a	n/a	RP	Failed	Deceased
48	62	8.6	166	pT2cN0	7 (4+3)	RP	Good	Alive
64	65	3.3	8	pT2cNa	7 (3+4)	RP	Good	Alive
61	58	4.2	87	pT3aN0	7 (3+4)	RP	Good	Alive
56	58	18.2	24	pT2cN0	7 (3+4)	AS	Good	Alive
57	66	1.1	94	n/a	n/a	RP	Good	Alive
50	73	7.9	285	pT2cN0	7 (3+4)	RP	Failed	Deceased
38	59	5	258	pT3aN0	7 (3+4)	RT	Failed	Alive
49	65	18	191	n/a	n/a	RP	Failed	Deceased
63	63	1	3	n/a	n/a	WD	Good	Alive
29	50	10	132	pT3aN0	7 (3+4)	AS	Failed	Alive
54	68	9.5	167	pT3aNx	7 (3+4)	RP	Failed	Deceased
42	58	12.4	190	pT2cN0	6 (3+3)	RP	Good	Alive
64	69	5.6	61	pT3aN0	7 (4+3)	RP	Good	Alive
55	57	4.2	30	pT2cN0	6 (3+3)	RP	Good	Alive
43	57	7	174	pT3aN0	7 (4+3)	RP	Good	Alive
66	69	780	41	pT2cNx	9 (4+5)	AA	Failed	Deceased

n/a not applicable, AA androgen ablation, AS active surveillance RP radical prostatectomy, RT radiotherapy, WD waiting decision