

# De novo urological malignancies in renal transplant recipients

Hugo Antunes, Edgar Tavares-Da-Silva, Rui Oliveira, João Carvalho, Belmiro Parada, Carlos Bastos, Arnaldo Figueiredo

## INTRODUCTION

Renal transplantation has evolved greatly in recent years, with graft and patient survival increasing. Part of this success is due to the development and application of new immunosuppressive drugs. Immunosuppressed transplant patients have a higher risk of malignancies development. The aim of this study was to determine the incidence of urological malignancies in renal transplant recipients, as well as to evaluate their monitoring, treatment and outcomes.

## PATIENTS AND METHODS

We conducted a cross-sectional single-center study of 2897 patients who underwent renal transplantation between January 1987 and December 2016. Recipients presenting *de novo* urological malignancies were evaluated regarding type of cancer, treatments and their results posttransplant duration, immunosuppressive regimens, graft functional status. 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

Renal transplant patients have a high incidence of urological tumors. Treatment of these tumors is not different from the rest of the patients. However, due to the increased incidence of tumors and possibly worse prognosis, renal transplant recipients should be screened more regularly.

## RESULTS

- Sixty-one *de novo* urological malignancies were recorded in **58 patients**.
- The overall incidence of urological malignancies was **2,2%**.

**Table 1** Clinical and epidemiological characteristics of renal transplants recipients with *de novo* urological malignancies

	Prostate carcinoma	Renal cell carcinoma	Transitional cell carcinoma	Penile carcinoma	All urological malignancies
<b>Gender (male/female)</b>	29/0	17/5	6/0	1/0	53/5
<b>Age at renal transplantation (years)</b>	53.4±10.7	44.8±10.4	58.8±9.3	58±9.9	50.6±11.2
<b>Age at tumor diagnosis (years)</b>	62.6±6.1	52.1±11.0	66.8±3.2	58	58.7±10.1
<b>Deceased donor/living donor</b>	29/0	21/2	6/0	1/0	56/2
<b>Time period of dialysis until renal transplant (months)</b>	39.8±31.6	54.1±48.1	43.0±22.5	16	45.3±38.2
<b>Time between renal transplant and tumor diagnosis (months)</b>	108±85	114±96	102±113	3	108.2±90.9
<b>Overall-survival 5-year after tumor diagnosis (%)</b>	86.2	91.3	83.3	100	84.5
<b>Incidence rate (%)</b>	1.5	0.8	0.2	0.04	2.2
<b>n/a not applicable</b>					

- **Tumor-related death** was found in **13,8%** of patients.
- Twenty-five (43,1%) cases had graft loss. Of these, 11 patients had a non functional graft when the diagnosis of urologic tumor was made.
- The therapeutic options did not differ from those used in non-transplanted patients.