

Hissa, P.N.G.; Thereza BMF; Daher E.F; Mendes C.C.P; Sousa A. R.O; Libório A.B  
Division of Nephrology – General Hospital of Fortaleza

## Introduction

Urinary Tract Obstruction (UTO) is an important cause of renal impairment, which may progress to chronicity. The factors involved in recovery of renal function are not yet fully studied. The aim of this study was to evaluate the factors associated with recovery of renal function after obstruction relief.

dialysis sessions ( $1.14 \pm 0.81$  vs.  $3.78 \pm 1.42$  sessions,  $p < 0.001$ ). No differences were observed in admissional serum Cr ( $8.2 \pm 5.5$  vs.  $7.2 \pm 4.6$  mg/dL,  $p=0.315$ ) nor serum urea ( $184 \pm 89$  vs.  $173 \pm 79$  mg/dL,  $p=0.04$ ) between groups. The degree of pelvis dilatation and cortical thickness were not associated with renal function recovery.

## Methods

Patients bilateral UTO, diagnosed by image methods, submitted to relief procedure at a referral center. The glomerular filtration rate (GFR) was estimated by MDRD.

## Results

Overall, 130 patients (73% men) were prospectively included over a period of 9 months, with a mean age of  $65.8 \pm 16.5$  years. The main comorbidities were hypertension in 46.2% and Diabetes Mellitus in 18.5% of cases. Direct malignant infiltration was the cause of UTO in 30.8% of patients. The average period of hospitalization was  $13 \pm 6$  days. Dialysis was required in 54.6% of cases and mortality rate 13.1% of the patients. At hospital discharge, maintenance dialysis was required in 27/113 patients (23.9%). The independent risk factors for mortality were neoplastic obstruction (OR: 95% 7.2: 2.3-22.49,  $p < 0.001$ ) and need of dialysis during hospital stay (OR: 18.08 95% CI: 4.65-32.89,  $p < 0.001$ ). Partial renal function recovery ( $eGFR > 30$  mL/min/1.73m<sup>2</sup>) occurred in 46/113 patients (40.7%) and  $eGFR > 60$  mL/min in only 18/113 patients. Patients with partial recovery of renal function ( $eGFR > 30$  mL/min) were younger ( $62.2 \pm 16.1$  vs.  $69.6 \pm 14.7$  years,  $p = 0.019$ ) and had non-tumoral causes of obstruction more frequently (79 vs. 60%,  $p=0.03$ ). Need for dialysis was similar between in patients with or not partial renal function recovery (40.7 vs. 45%,  $p=ns$ ), however patients with partial renal function recovery needed less

	Recovered renal function (n= 44)	Not recovered renal function (n=79)	P
Sex (M/F)	35/9	57/22	0.047
Age	$69.61 \pm 14.5$	$63.56 \pm 16.8$	$< 0,001$
Number of dialysis sessions	$1.14 \pm 1.93$	$4.04 \pm 3.83$	$<0,001$
Admission creatinine	$7.21 \pm 4.65$	$8.78 \pm 5.38$	0,111
Admission urea	$184.05 \pm 89.95$	$169.81 \pm 83.61$	0,395
Highest urea	$184.31 \pm 100.88$	$188.44 \pm 81.00$	0,812
Middle urea	$123.50,8 \pm 52.42$	$139.89 \pm 54.55$	0,113
Days of permanence	$8.20 \pm 5.26$	$16.23 \pm 29.16$	0,139

## Conclusions

UTO has a high mortality rate, mainly in patients with neoplasia obstruction causes. Partial renal function recovery occurs in less than half of the cases, being associated with age and obstruction cause. Severity of renal impairment at admission is not associated with recovery of renal function, as evidenced by similar need of dialysis and similar levels of serum Cr on admission.

