

CKD Complications in Transplanted Patients Going Back to Dialysis : Which Impact on Prognosis

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Background

- Going back to dialysis after kidney transplantation is an important time in CKD patient life. It causes a sudden failure in quality of life and an increased risk of mortality and morbidity which induces repeated hospitalizations¹.
- CKD complications management in kidney transplanted patients returning to dialysis could be worse than that observed in patient starting dialysis for the first time^{2,3}.
- The adequacy of chronic kidney disease complications management could have an impact on kidney transplanted patients outcomes returning to dialysis.

1. Gill, J.S., Abichandani, R., Kausz, A.T. & Pereira, B.J. Mortality after kidney transplant failure: the impact of non-immunologic factors. *Kidney Int* **62**, 1875-1883 (2002).
2. Akbari, A., Hussain, N., Karpinski, J. & Knoll, G.A. Chronic kidney disease management: comparison between renal transplant recipients and nontransplant patients with chronic kidney disease. *Nephron Clin Pract* **107**, c7-13 (2007).

Patients et Methods

- Retrospective observational multicentric study
- Comparing à group of T+ patients restarting dialysis to a group of T- patients starting dialysis due to native kidney failure
- Control group matched on age sex dialysis center, dialysis starting date and diabete mellitus.
- Data about CKD complications (arterial pressure, anemia, CKD-MBD, electrolyte disorder, dyslipidemia, nutrition status and inflammation) and outcomes (death and hospitalization) were collected retrospectively by consulting medical files
- KDOQI target value were used to determine management adequacy

Results

Electrolyte disorders

	T-	T+	p
Kalemia < 5,5mmol/L (%)	1 (2)	6 (12)	0,06
resins (%)	13 (27)	10 (20)	0,49
Kalemia > 5,5 mmol/L and no resin (%)	1(2)	4 (8)	0,07
Bicarbonate > 22 mmol/L (%)	27 (55)	11 (22)	0,0003
Bicarbonate supplements (%)	8 (16)	9 (18)	0,81
Bicarbonate < 22 mmol/L and no bicarbonate supplement (%)	17 (35)	31 (63)	0,0003

Anemia

	T-	T+	p
Hb >11g/dL (%)	17 (35)	7 (14)	0,015
Ferritin >100µg/L (%)	38 (78)	40 (82)	0,64
TS (%)	25 ± 10	23 ± 9	0,26
TS >20% (%)	37 (76)	33 (67)	0,37
Hb < 11 g/dL and no ASE (%)	14 (29)	23 (47)	0,06
Ferritin < 100 µg/L ou TS < 20 % no iron (%)	13 (27)	12 (24)	0,82

Dyslipidemia

	T-	T+	p
Triglycérine < 5g/L (%)	49 (100)	47 (96)	0,16
LDLc < 1 g/L (%)	22 (45)	25 (51)	0,53
Statin (%)	25 (51)	20 (41)	0,32
LDLc > 1 g/L and no statin (%)	9 (18)	11 (22)	0,62

Arterial Pressure

	T-	T+	P
PA < 130/80 mmHg (%)	33	8	0,005
IEC (%)	33	20	0,11
ARA2 (%)	31	33	0,78
Antihypertensive agent number (n)	2,5 ± 1,3	2,5 ± 1,4	0,89
PA > 130/80 mmHg and < 3 Antihypertensive agent (%)	15 (32)	21 (43)	0,01

Nutrition and Inflammation

	T-	T+	p
IMC > 23	33 (67)	20 (41)	0,01
Albumine > 38 g/L	18 (37)	8 (16)	0,02
Prealbumine > 0,3 g/L	11 (22)	10 (37)	0,17
CRP (mg/dL)	6 ± 8	17 ± 20	0,0002
CRP < 5 mg/dL	34 (69)	14 (29)	<0,0001

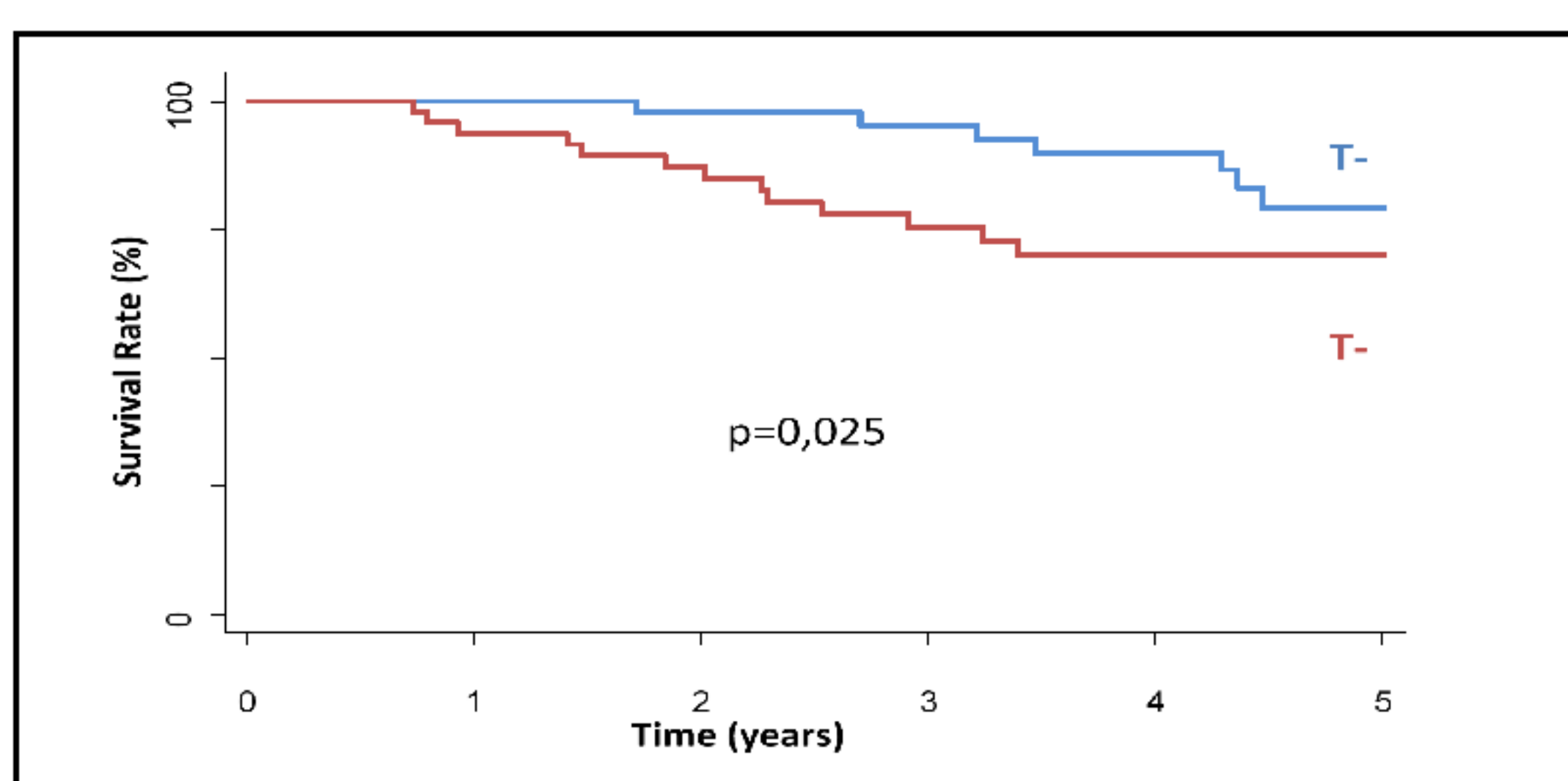
CKD-MBD

	T-	T+	p
Calcium 2,2 – 2,5 mmol/L	65	39	0,01
Phosphate 0,8 – 1,5 mmol/L (%)	36	14	0,03
Vitamin D3 > 30 ng/mL (%)	35	17	0,17
PTH 130-585 pg/mL (%)	67	51	0,23
Phosphate > 1,5 mmol/L and no chelator (%)	10 (21)	12 (24)	0,63
PTH > 585 pg/mL and no chelator nor vitamin D (%)	0 (0)	3 (6)	0,12

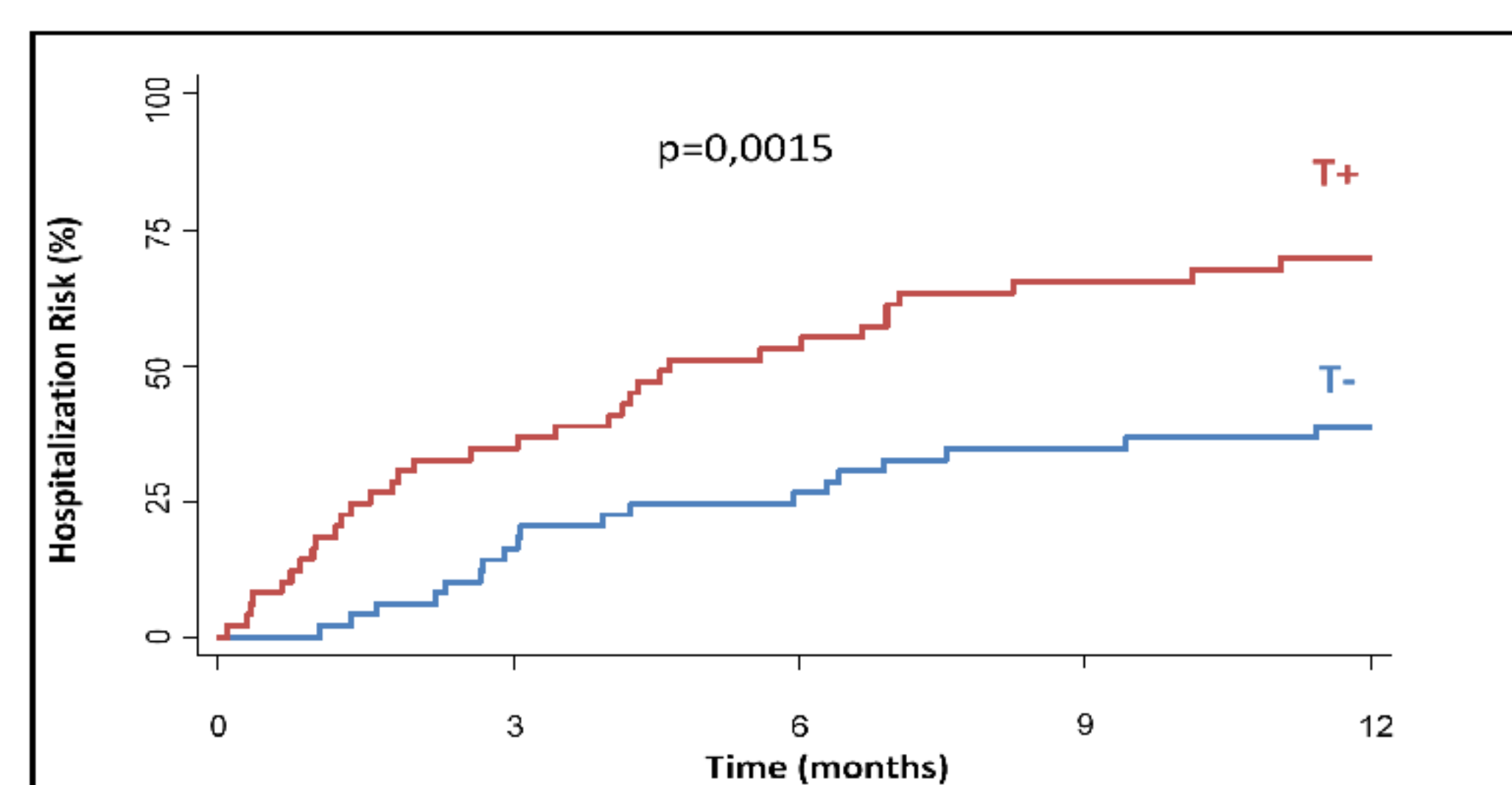
Dialysis preparation

	T-	T+	p
Hepatitis B vaccination(%)	46 (94)	49 (100)	0,08
Dialysis access (%)	32 (65)	35 (71)	0,51
Emergency first session (%)	6 (12)	19 (39)	0,005

Mortality

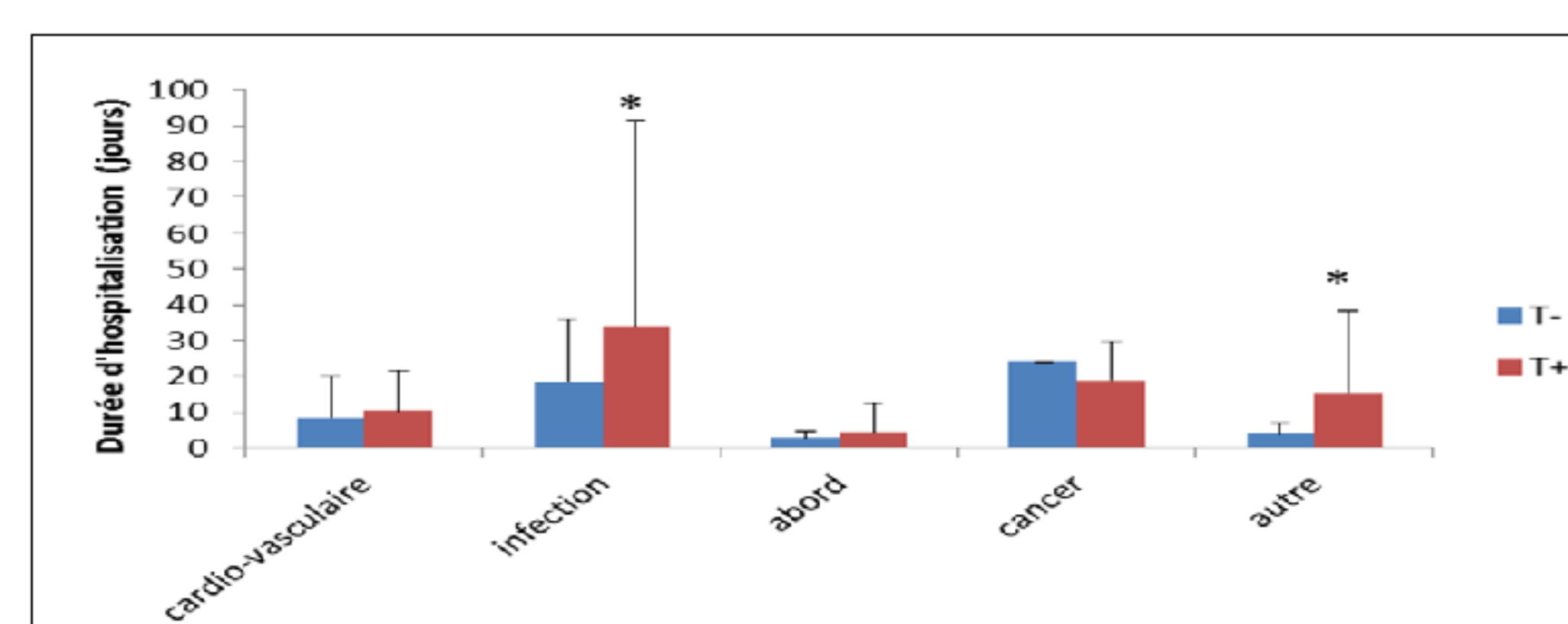
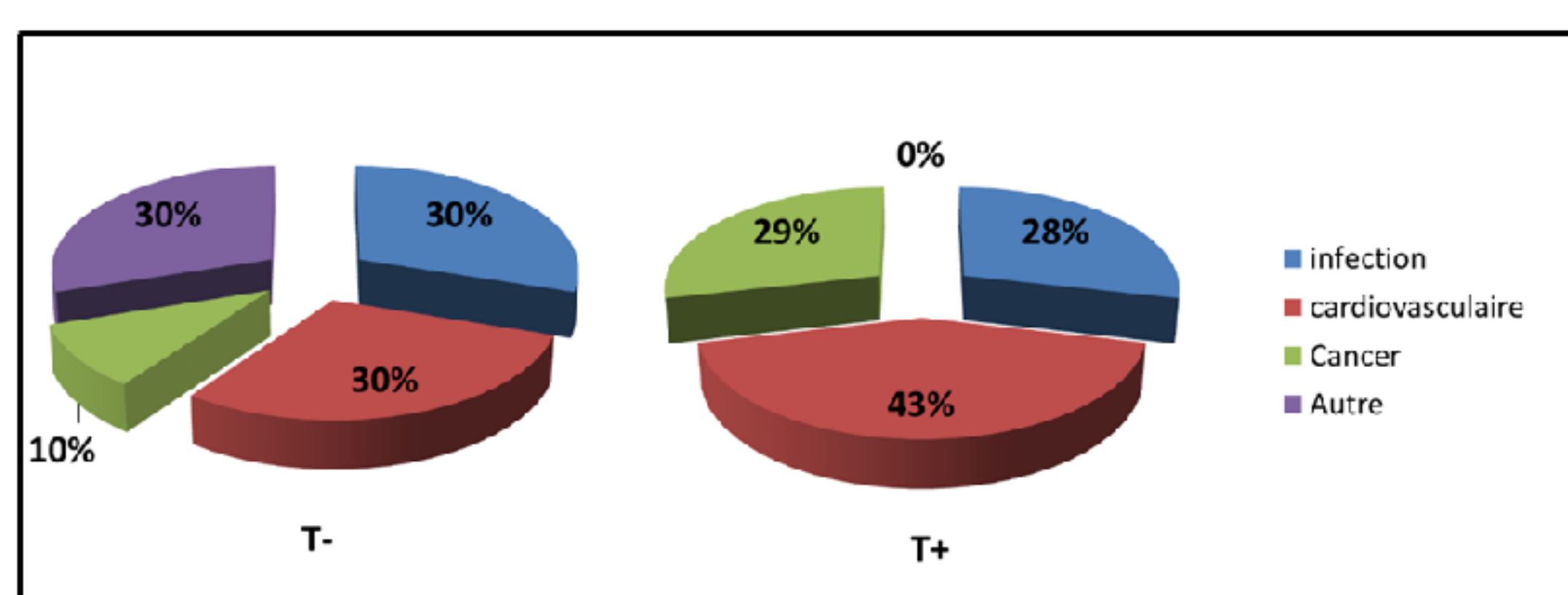


Hospitalizations



Multivariate Analysis

	Univariate		Multivariate (Cox)	
	RR [IC95]	p	RR [IC95]	p
Age (+ 1 year)	1,06 [1,01 – 1,10]	0,006	1,04 [0,99 – 1,08]	0,109
Hb > 11 g/dL	1,1 [0,2 – 5,1]	0,04	0,19 [0,03 – 1,48]	0,115
Préalbumine > 0,3 g/L	0,45 [0,13 – 1,6]	0,04	-	-
Albumin > 38 g/dL	0,6 [0,25 – 1,6]	0,27	0,29 [0,02 – 3,83]	0,350
CRP < 5 g/dL	2,3 [0,9 – 5,8]	0,03	0,89 [0,24 – 3,22]	0,854
Emergency dialysis	1,9 [0,6 – 6]	0,15	1,64 [0,48 – 5,6]	0,430
CKD duration (+1 year)	1,13 [1,05 – 1,23]	0,006	1,12 [1,03 – 1,23]	0,007



	β Coefficient [IC95]	p
LDLc < 1 g/L	-0,51 [-1,59 – 0,55]	0,346
Hb > 11 g/L	0,35 [-1,23 – 1,92]	0,665
CRP < 5 mg/L	-1,38 [-2,56 – -0,20]	0,022
Albumin > 38 g/L	-1,66 [-2,90 – -0,42]	0,008
Emergency dialysis	-0,020 [-1,21 – 1,17]	0,974

Conclusion

A better attention to CKD complication notably Protein Energy Wasting should be taken in transplanted patient going back to dialysis

