

# INFLAMMATION AND OXIDATION IN KIDNEY TRANSPLANT PATIENTS. IS THERE A RELATIONSHIP WITH MORTALITY?



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INTRODUCTION: Inflammation and oxidation are both increased in chronic kidney disease. It is known that kidney transplant improves these situations but it doesn't normalize them.

AIM: a) To study the relationship between renal function at 3 months after kidney transplantation and the inflammatory and oxidative states that exist in kidney transplant patients.

b) To analize if there is possible to stablish a relationship between the inflammatory and oxidative states after transplanation with mortality in kidney transplant patients.

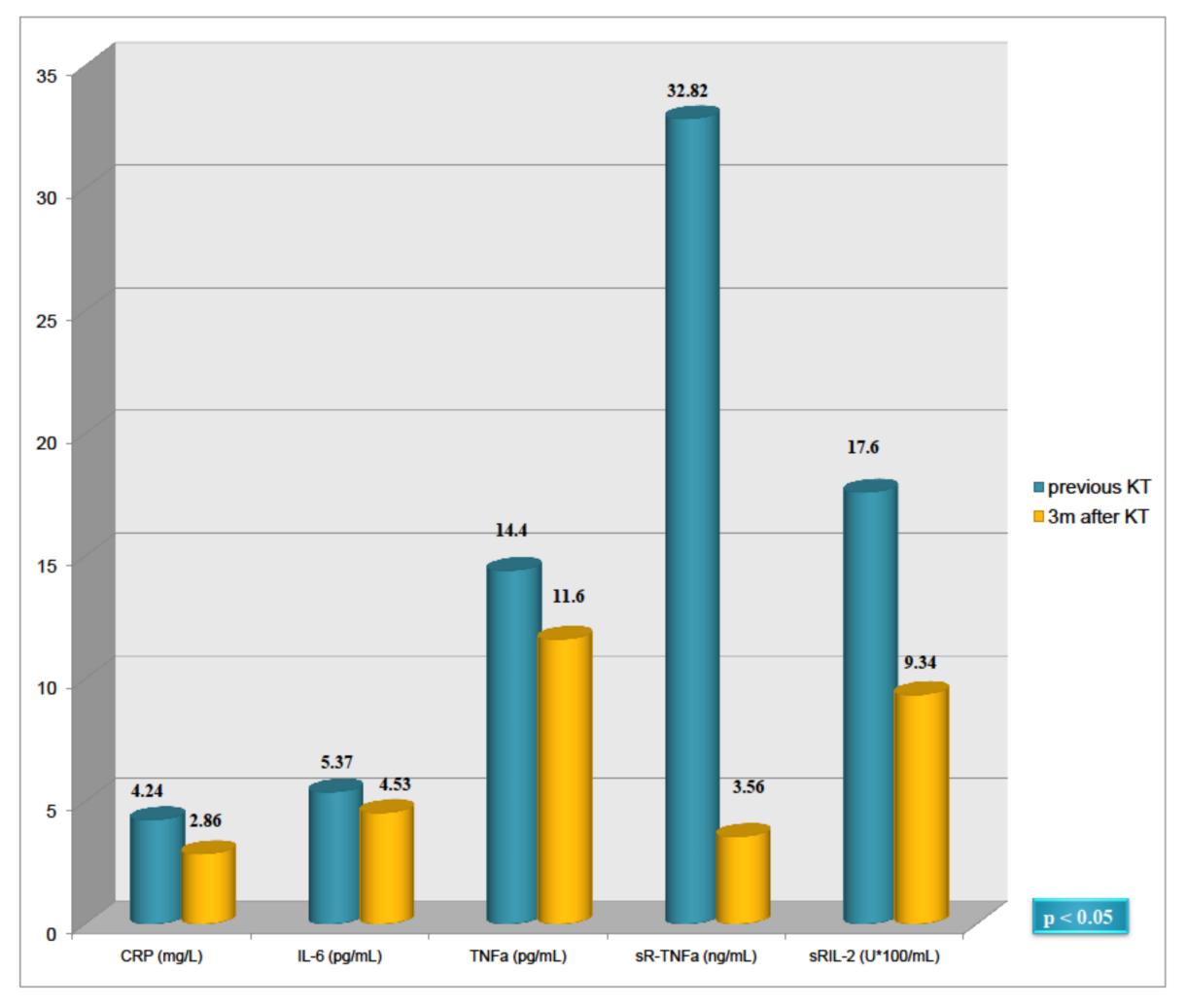
### **PATIENTS AND METHODS:**

	N	196	INFLAMMATION MARKERS	OXIDATION MARKERS
	Sex	63 (32.1%)	C-reactive protein (CRP)	Oxidized low-density lipoprotein (oxLDL)
		133 (67.9%)	Interleukin 6 (IL-6)	omazecion dellong impoprotein (omzze)
A	ge (years old)	51.89 12.54		Anti-oxidized low-density lipoprotein antibodies (oxLDL Abs)
Mo	onths in dialysis	23 (12 – 38)	Tumoral necrosis factor α (TNFα)	
	Others	37 DM (18.9%)	Soluble receptor interleukin 2 (sRIL-2)	
		29 CVD (14.8%)	Soluble receptor TNFα (sR-TNFα)	✓ All markers were analyzed before and at 3 months after kidney transplantation

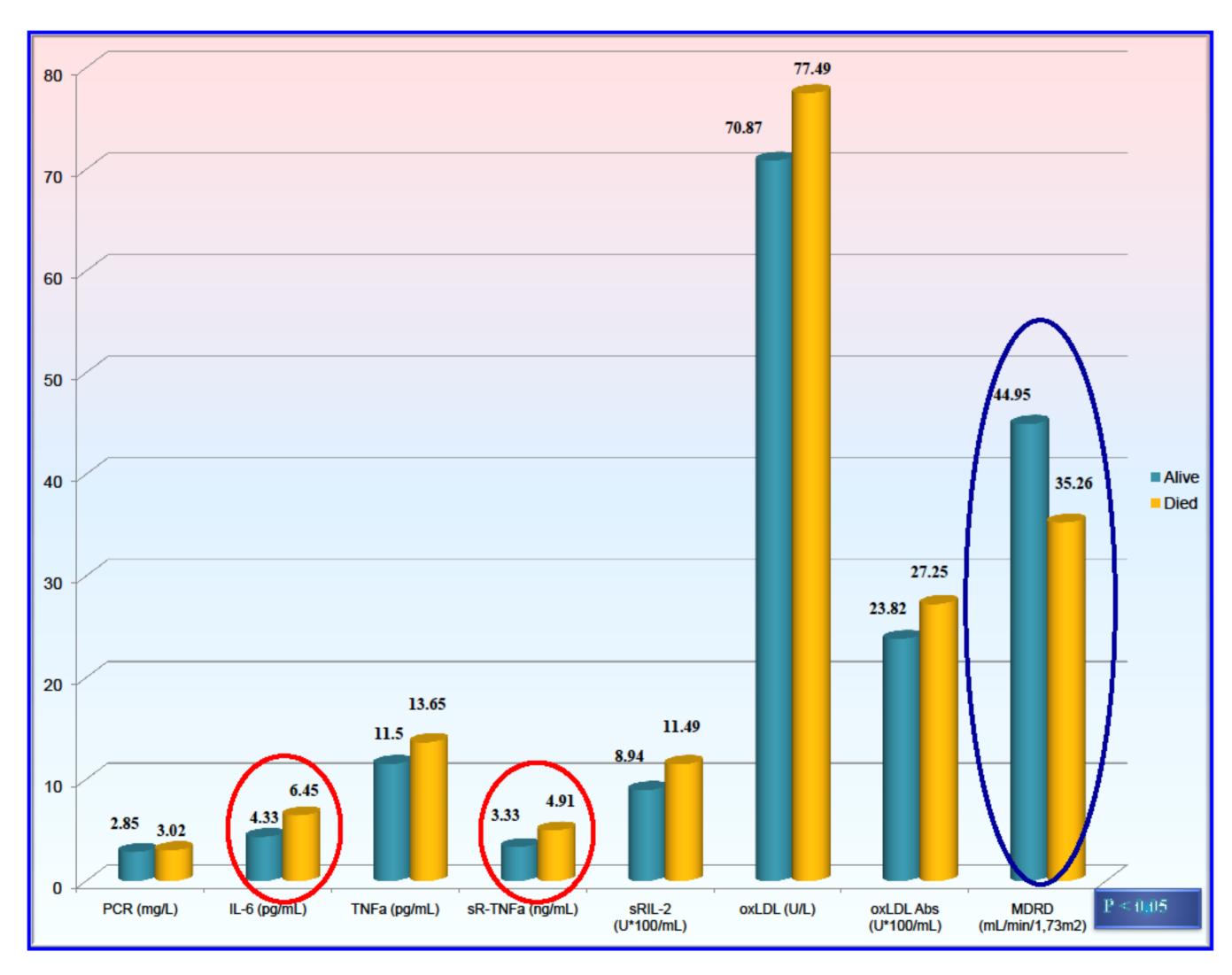
✓ Glomerular filtration rate was calculated by **MDRD formula**.

**RESULTS:** Global mortality until April 2012 was 13,8%  $(27/196) \rightarrow 4\%$  cancer, 2,5% infections, 2,5% cardiovascular disease, 3% other causes. Medium MDRD at 3 months after transplantation: de  $43.89 (35.16 - 53.94) \, mL/min/1.73 m^2$ 

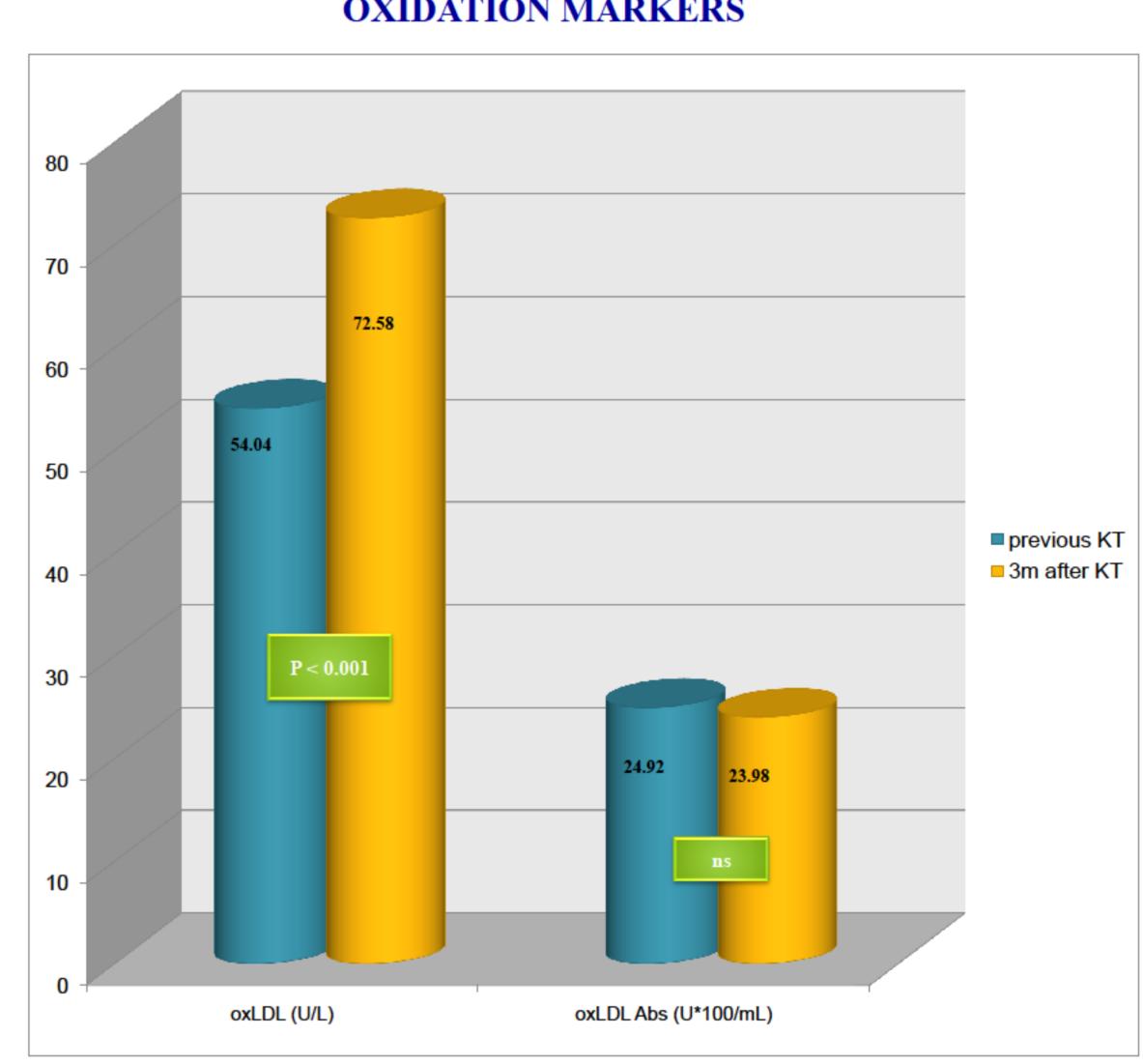
#### **INFLAMMATION MARKERS**



## INFLAMMATION AND OXIDATION MARKERS AT 3m AFTER TRANSPLANTATION AND MORTALITY



### **OXIDATION MARKERS**



## RISK FACTORS OF MORTALITY

Dependant Variable  Independant Variable	Mortality after kidney transplantation
Age	OR: 1,068 [IC 95% : 1,011-1,12]; (p=0,018)
oxLDL > P <sub>75</sub>	OR: 3,27 [IC 95%: 0,980-10,96]; (p=0,054)
oxLDL Abs > P <sub>75</sub>	OR: 6,99 [IC 95%: 2,10-23,28]; (p=0,002)
MDRD	OR: 0,91 [IC 95%: 0,863-0,959]; (p<0,001)

Covariants: age, sex, pretransplant diabetes mellitus, pretransplant cardiovascular disease, IL-6, sR-TNF $\alpha$ , oxLDL ( $P_{75}$ ), oxLDL Abs ( $P_{75}$ ), MDRD.

## **CONCLUSIONS:**

- > Kidney transplant patients with a worse inflammation state, a worse oxidation state and with an impaired renal function have a higher risk of mortality.
- > Independent predictive variables of mortality were age, high levels of oxidation markers and wrose kidney renal function at 3 months after transplantation.





