

ARE THERE ANY DIFFERENCES BETWEEN COMBINED LIVER KIDNEY TRANSPLANTATION AND THE CONTRALATERAL ALLOGRAFT IN KIDNEY ALONE TRANSPLANTATION?

L. Muñiz Pacios, M. Molina, J. Cabrera, E. González, A. García Santiago, P. Auñon, S. Santana, N. Polanco, E. Gutiérrez, M. Praga, A. Andrés
Hospital 12 de Octubre, Madrid, Spain

Introduction and aims:

Combined liver kidney transplantation (LKT) is the best treatment for patients with liver failure and irreversible renal insufficiency. Some studies have questioned the outcomes of simultaneous LKT due to poor results mainly in relation to the perisurgical risk¹. On the other hand, other studies have shown the incidence of acute cellular rejection was lower in patients undergoing combined LKT comparing to patients undergoing kidney alone transplantation (KAT)^{2,3}.

Objectives:

- Retrospective, descriptive study
- Determine the outcomes of simultaneous LKT
- Compare them with KAT.

Methods:

From 2000 to 2012 were performed 29 sLKT in our center. Among these donors, 17 contralateral kidneys were used in our center, 14 of which undergoing a KAT. Besides, those patients with follow-up loss during the first year after transplantation were excluded. The resulting 12 paired control patients were the basis of this analysis.

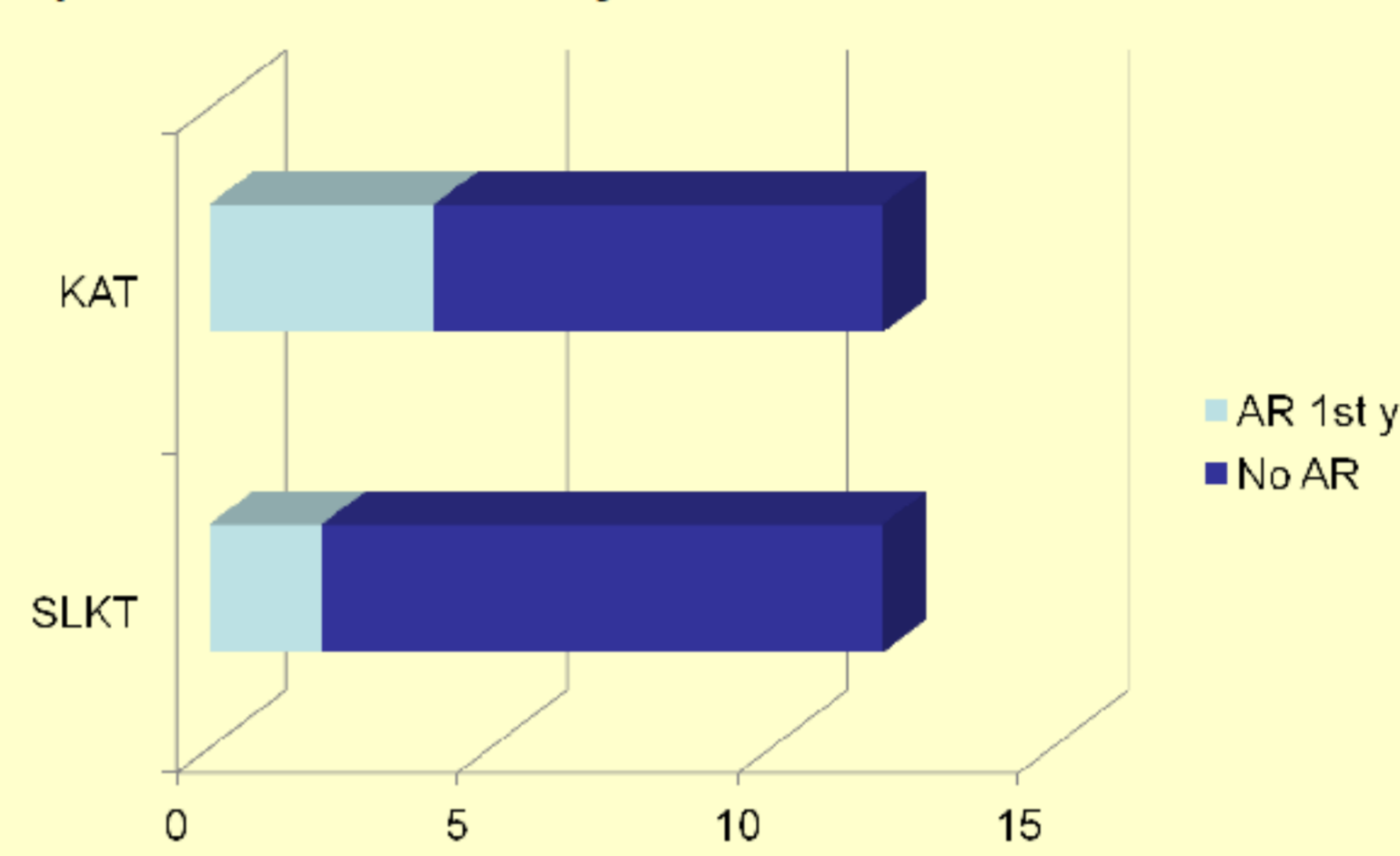
Donor and recipient characteristics

| | Liver-Kidney transplant (N = 12) | Alone Kidney transplant (N = 12) |
|----------------------------|----------------------------------|----------------------------------|
| Recipient Age | 52 (r34-67) | 40 (r30-63) |
| Male Recipient | 50% (6) | 50% (6) |
| C Hepatitis Virus | 25% (3) | 17% (2) |
| Months on dialysis | 33 (r3-171) | 12 (r3-108) |
| Hyperimmunized (PRA>50%) | 17% (2) | 9% (1) |
| HLA mismatches | 4 (r3-6) | 4 (r2-6) |
| Cold ischemia time (hours) | 17 (r10-24) | 18 (r12-22) |

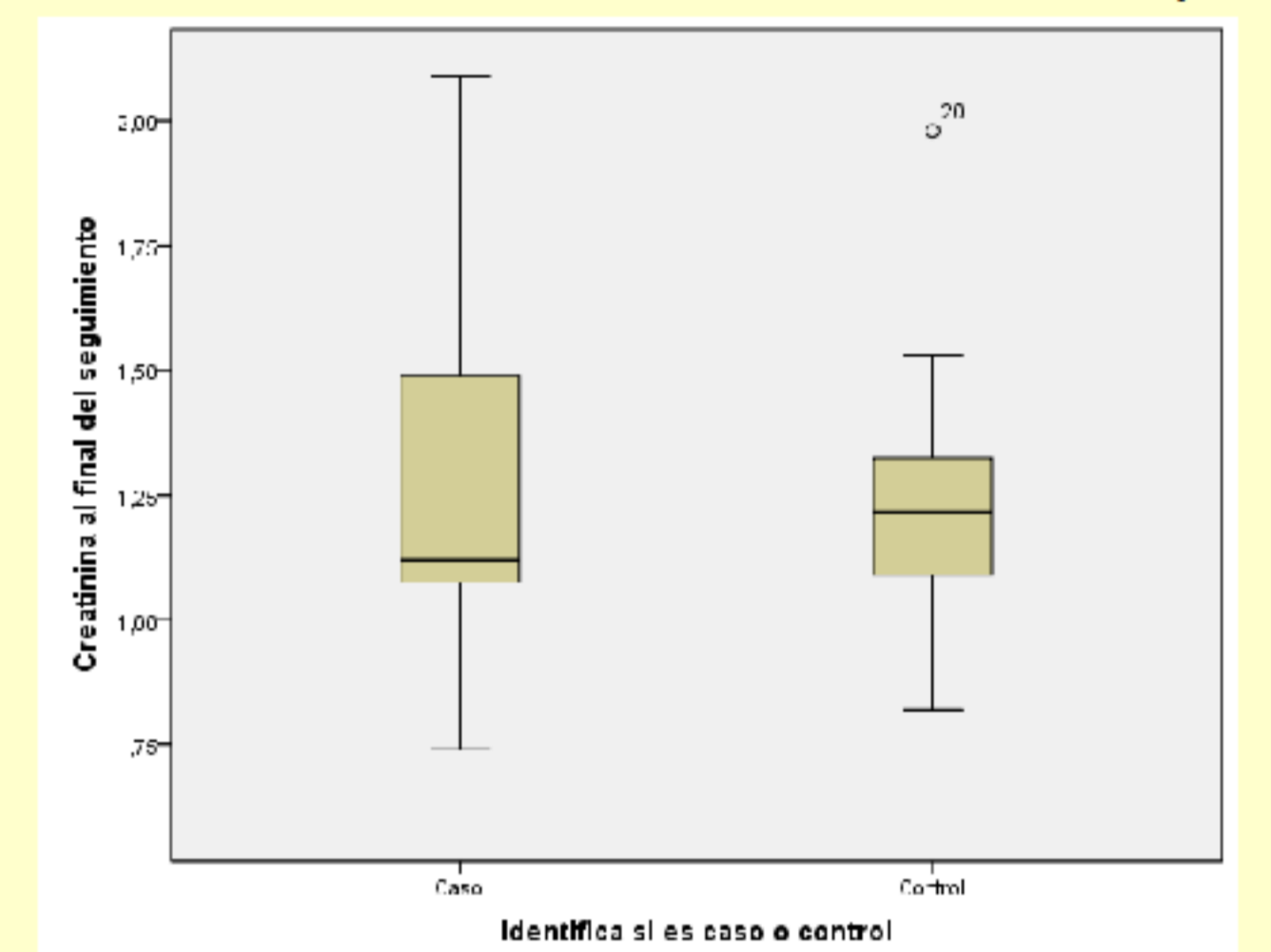
Outcomes

| | | |
|---------------------------|------------|-------------|
| Kidney allograft survival | 100% (12) | 100% (12) |
| Follow-up (months) | 34 (r2-62) | 36 (r10-97) |

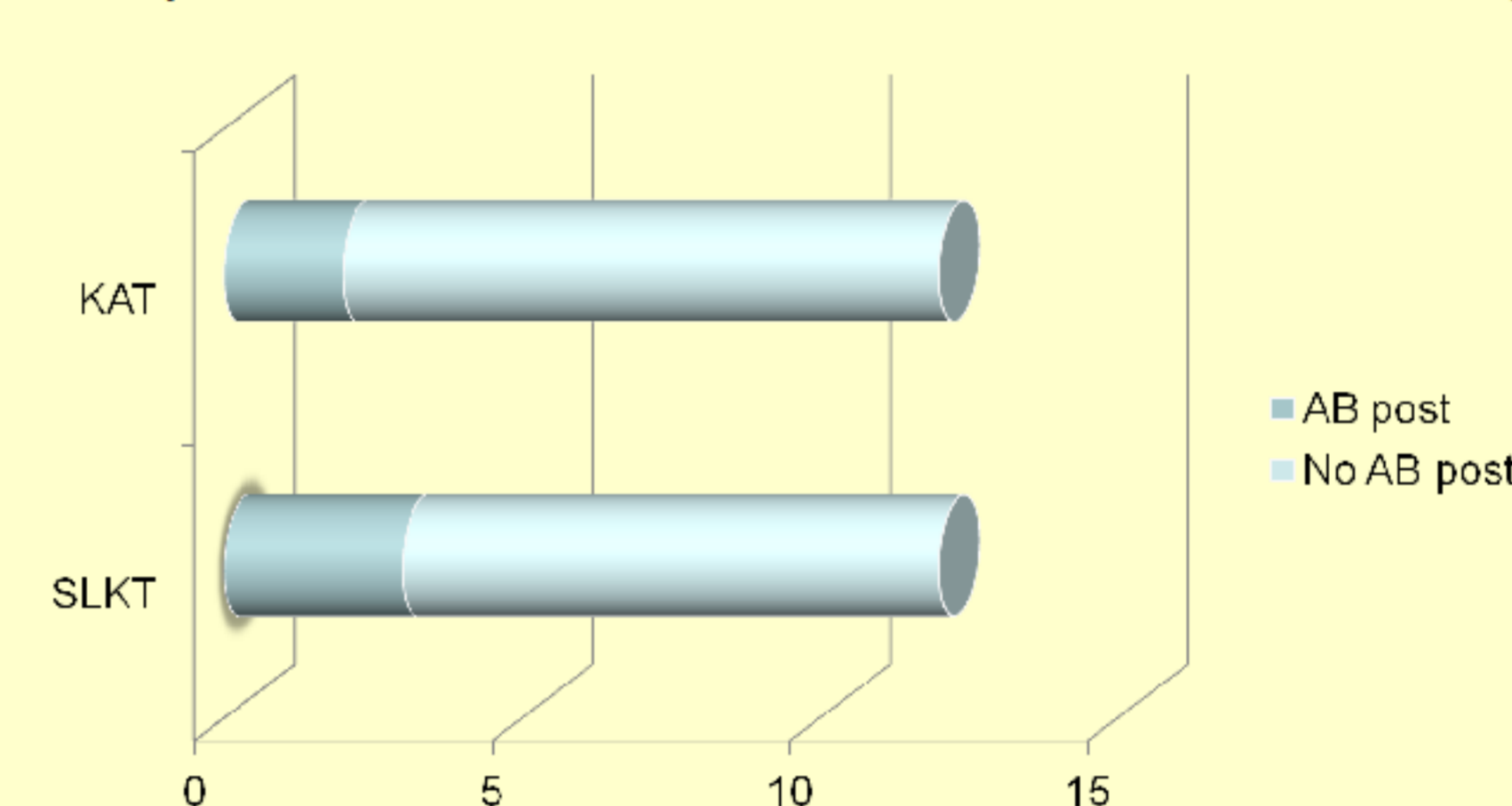
Acute rejection incidence biopsy proved in the first year



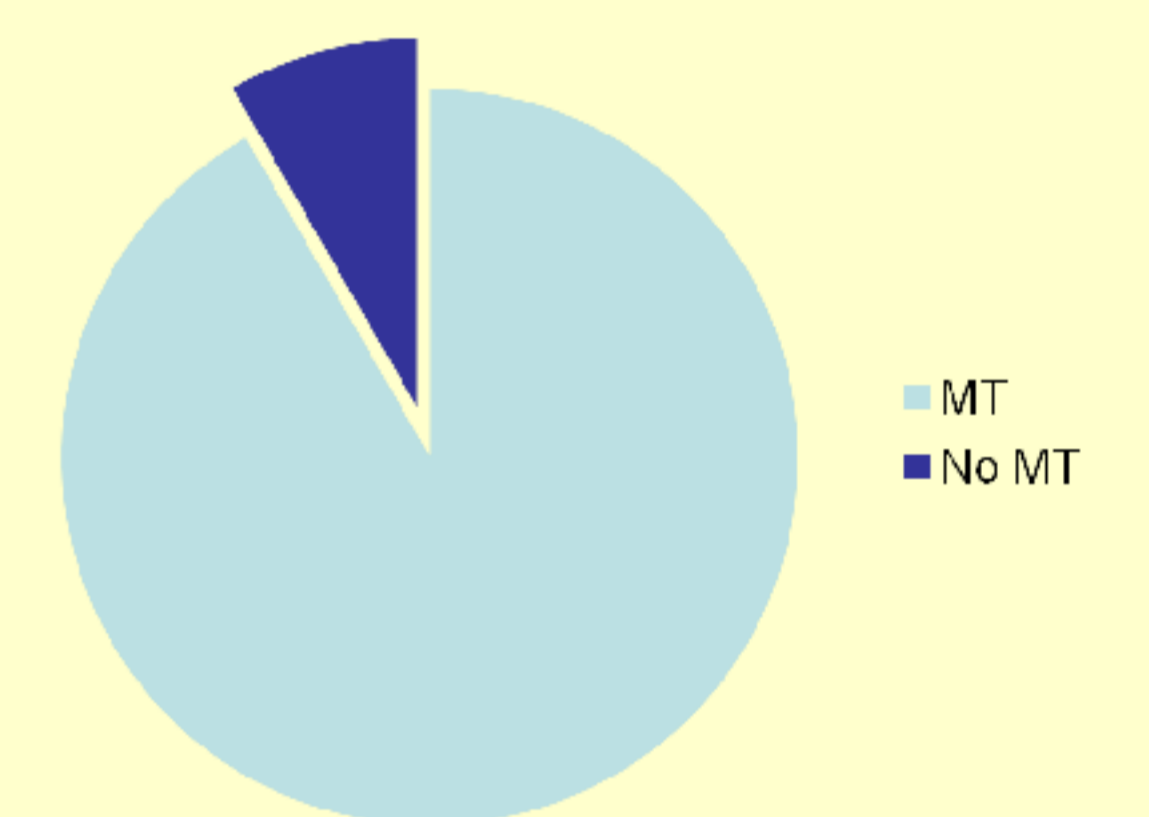
Serum creatinine at the end of the follow-up



HLA antibodies after transplantation



Intrasurgical massive transfusion in SLKT



Results:

Main results are in the graphics above. None of these results was statistically significant due to the size of the sample, but it can be appreciated some trends. It seems that there were elder recipients, longer duration of the dialysis, more second and third kidney transplantation recipients and more hyperimmunized patients in the sLKT group comparing to the KAT group. During the surgery, massive blood transfusion defined as replacement of >1 blood volume in 24 hours (more than 10 red cells concentrates approximately) were required in 91% of the sLKT recipients but in none of the AKT ones. Despite this, it seems that the incidence of acute rejection biopsy-proved in sLKT in the first year can be lower in the LKT group than in AKT group, but serum creatinine at the end of the follow-up was very similar in both groups (1,1 vs 1,2mg/dl). Oddly, we have found in our sample more patients with HLA antibodies after transplantation in the sLKT group, probably due to more hyperimmunized patients.

Conclusions:

Even though sLKT recipients seems to be more complex (trend to be older, longer duration of dialysis, concurrent end stage liver disease,...) than AKT ones, renal function at the end of the follow-up was very similar. What is more, although simultaneous kidney and liver recipients had more immunologic risk (give the impression to be more second and third transplants, more hyperimmunized patients and massive blood transfusion), look as if there were a lower incidence of acute rejection than in kidney alone recipients. All of these facts suggest that the liver allograft may confer a protective effect in the kidney.

Main References:

1. Locke JE et al. Declining outcomes in simultaneous liver-kidney transplantation in the MELD era: Ineffective usage of renal allografts. *Transplantation* 2008;85:935
2. Hanish SI et al. Outcomes of simultaneous liver/kidney transplants are equivalent to kidney transplant alone: A preliminary report. *Transplantation* 2010;90:52-60
3. Fong T et al. Analysis of the united network for organ sharing database comparing renal allografts and patient survival with the contralateral allograft in kidney alone or kidney-pancreas transplantation. *Transplantation* 2003;76:348-353

