Steroids withdrawal during the first year after heart transplantation and its association with changes in renal function in a two year follow-up. RESTCO study

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Purpose Background
There is still debate on whether steroids withdrawal is the best option in the immunosuppression of heart transplant patients. While we know the frequency of this practice in Spain, little is known on the magnitude of the potential beneficial effect in different clinical variables (i.e. renal function) really achieved for the extra rejection risk assumed associated with steroids withdrawal. Aim: To study the association between steroids withdrawal during the first year after heart transplantation (HT) and changes in renal function during the following two years.

Methods
Historical cohort study done in 13 Spanish HT centers. 908 HT patients older than 18 years (81.9% males and with a mean age of 52 years (standard deviation=11)). All HT were done between 2000 and 2005 and only patients with complete information both on steroids treatment one year after HT and on renal function one and three years after HT were considered in this analysis. The glomerular filtration rate was estimated (eGFR) by the MDRD formula and its changes between first and third year after HT where analyzed in three different groups depending on steroids treatment one year after HT: A) No steroids; B) Low doses (≤ 5mg/día) y C) High doses (> 5mg/día), and these changes compared among groups. Severe renal dysfunction was considered when eGFR< 30 mL/min/1.73m2.

Results
At the one-year visit, 99 (10.9%) patients were without steroids (Group A), 271 (29.9%) with low doses (B) and 538 (59.2%) with high doses (C). At this point in time, the three groups showed very similar eGFR (mean [standard deviation] in A=61 [23.1], B=62.4 [22.9] y C=60.7 [19.7]). The no-steroids group (A) improved its eGFR from year one to year three (mean increase 6.9 [95% C.I.= 3.4-10.3] while in the two other groups it did not change (difference 0.4 [95% C.I.= -1.5-2.3] and -0.9 [95% C.I.= -2.6-0.8] in B and C respectively). Correspondingly, prevalence of severe renal dysfunction decreased from 7.1% to 2% in group A, a difference not statistically significant, though.

Conclusion

Steroids withdrawal is associated with an improve in renal function thereafter that, although of modest magnitude, might be of potential clinical relevance due to the high prevalence of renal dysfunction among HT patients.