

Metabolic and renal outcomes of kidney transplantation in overweight or obese patients: the impact of early steroid withdrawal.

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If you only have 1 minute

What ? Impact of early steroid withdrawal on NODAT and rejection

Who ? 139 non-sensitized kidney transplant recipients treated with ATG induction, grouped by BMI.

So ?

1

Early steroid withdrawal (<10 days) does not lead to more rejection or worse kidney function one year after Tx

2

Early steroid withdrawal might prevent NODAT in obese patients

If you only have 1 minute

Background

New Onset Diabetes After Transplantation (NODAT) is a common complication of renal transplantation that has a negative impact on graft function and overall survival of recipients. Obesity has been identified as one of the major risk factors of NODAT, complicating organ attribution in these patients. The recent Harmony study showed good efficacy and safety of an early corticosteroid (CS) withdrawal. Whether specific groups of patients benefit more from this strategy remains an open question. The goal of our study is to evaluate the risk of NODAT in obese versus non-obese patients and to estimate if early CS withdrawal strategy is effective and safe for its' prevention.

Time after transplant	D0	1	2	3	4	5	6	7	D14-M3	→
CS (mg/kg/day)	10	6	4	2	1	0.5	0.25		0.1-0.15	
ECSW (mg/kg/day)	10	6	4	2						
ATG (mg/kg/day)		0.5 (0.75 if ECSW)								
Tacrolimus (mg/kg/day)							0.1			
MMF (mg/day)				2					1-1.5	

Methods

We retrospectively reviewed medical files from patients who have undergone kidney transplantation from 2011-2014 in a single centre. We included all the overweight and obese subjects and a comparable number of age matched non-obese control subjects. Patients with previous kidney or other organ transplantations, as well as those with autoimmune diseases requiring long term immunosuppression were excluded. Baseline clinical and biological parameters and at last follow up were monitored, as well as metabolic and renal outcome (graft function and 1 year Biopsy Proven Acute Rejection (BPAR)). Immunosuppression protocol consisted of 5 days ATG (anti-thymocyte globulin) induction therapy, corticosteroids, tacrolimus and Mycophenolate Mofetil (MMF). Early CS withdrawal was planned for patients considered at high metabolic risk and without previous HLA-sensitization. Linear and logistic models were used to assess the interaction between categories of BMI and early CS withdrawal (before 30 days after transplantation) on primary outcomes (new onset diabetes, creatinine and BMI evolution).

Results

139 consecutive patients matching our criteria were selected. 24 with diabetes prior to transplantation and 16 with a transient diabetes after transplantation were further excluded from analysis. Three groups of patients were followed for an average of 1000 days: 47 normal weight (mean BMI:22 kg/m², mean age: 56 years), 40 overweight (mean BMI: 27 kg/m², age 54) and 12 obese (mean BMI: 34 kg/m², mean age 50). There was no significant difference in transplant related variables. **The average length of CS treatment in obese patients was 55 days, 144 days in overweight and 214 in patients with normal BMI.**

Nine (9.1%) patients developed NODAT: 2 (4.3%) in normal BMI group, 5 (12.5%) in the overweight group and 2 (16.7%) in the obese group. **The OR of NODAT tended to decrease (OR -3.59, p=0.06) in obese patients if early CS withdrawal was implemented.** The OR of NODAT was 2.747 in normal-BMI patients for whom early CS withdrawal was implemented, meaning early CS withdrawal targeted appropriate patients. Obesity was not associated with decreased graft function nor BPAR. Early CS withdrawal did not have a significant effect on renal function or BPAR.

Conclusions

Obese patients are at higher risk of NODAT, however this risk is minimized with early steroid tapering for non-sensitized subjects, without effect on graft function or BPAR risk. In non-obese patients, we must investigate other metabolic risk factors and body size descriptors other than BMI (such as waist circumference or visceral adiposity) to better predict the risk of NODAT.

Keywords: early steroid withdrawal, kidney transplantation, diabetes, obesity

