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P208 -Are we better at treating new onset diabetes after transplantation than type 2 diabetes mellitus in kidney transplant patients?

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Introduction

The incidence of New Onset Diabetes after Transplantation (NODAT) occurring within the first 6 months post renal transplant (RT) is 20.5%. NODAT is associated with greater cardiovascular morbidity and mortality, faster rates of graft failure and death censored graft failure when compared with transplanted patients with pre-existing type 2 diabetes mellitus (T2DM). Genome wide-association studies have shown >40 loci in patients with NODAT that are associated with T2DM. These specifically affect insulin secretion, incretin effect and hepatic gluconeogenesis. The treatment of NODAT therefore involves similar therapeutic strategies to those of treating T2DM. In view of this we looked to see whether oral hypoglycaemic agents were more commonly used in NODAT than in patients post RT with a previous diagnosis of T2DM.

Methods: Observational retrospective study collected data from 2 centres between 1/11/11 to 1/11/2017 and 1/07/2003 to 1/07/2018. Clinical notes and laboratory data were collected pre and post RT in those with pre-existing T2DM and those diagnosed with NODAT. NODAT was defined as HbA1c >48mmol/mol(6.5%) from 3 months post-transplant in keeping with recommendations from the ADA. Both centres used induction (one used basiliximab alone, the other used either basiliximab or campath) followed by maintenance immunosuppression with prednisolone, tacrolimus and mycophenolate mofetil.

Results: 53 patients with RT developed NODAT, 34 male, with median age at transplantation 63 years (range 24-80). Ethnicity was White (43), Asian (7) and Black (1) with 2 unspecified. 95 patients with pre-existing T2DM received RT, 77 male with median age at transplantation 62 years (range 34-82). Ethnicity of this group was White (62), Asian (24) or Black (4) with five unspecified. Patients in the T2DM group had a GFR of 49mls/min/1.75m2 (17-181), 7 failed transplants, 4 deaths with a median follow up of 2.5 years (3 months-5.9 years) compared with NODAT whose GFR was 59mls/min/1.75m2 (19-113) had 7 failed transplants and 5 deaths. Median follow up for NODAT was 3.2 years (4 months -13.1 years).

In the T2DM group, pre-RT HbA1C was 52mmol/mol (27-100). Post RT it increased to 58mmol/mol (23-116), significantly higher ($p<0.01$) than in the NODAT group (51mmol/mol (33-96). 89% in the NODAT group achieved target HbA1C compared with only 65% of T2DM patients ($p=0.12$). In the T2DM group hypoglycaemic agents were; insulin 54%(52), gliptins 14%(13), gliclazide 12%(12), metformin 7%(7), GLP-1 1%(1), with diet control 12%(12). In NODAT patients they were insulin 47%(26), gliptins 16%(9), metformin 14%(8), gliclazide 9%(5), with only diet control in 14%(8),

Conclusion: More patients who developed NODAT attained target HbA1C levels than did renal transplant recipients with pre-existing T2DM. At comparable levels of renal function, NODAT patients were more often managed with oral hypoglycaemic agents (and less often insulin) compared with those with T2DM. This suggests that management of T2DM post-renal transplantation is suboptimal and points to the need for guidelines for glycaemic management in these patients.