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# MANAGEMENT OF DIABETES IN ADVANCED CKD

## TO025 THE NATURAL HISTORY OF PREDIABETES AND NEW ONSET DIABETES AFTER TRANSPLANTATION

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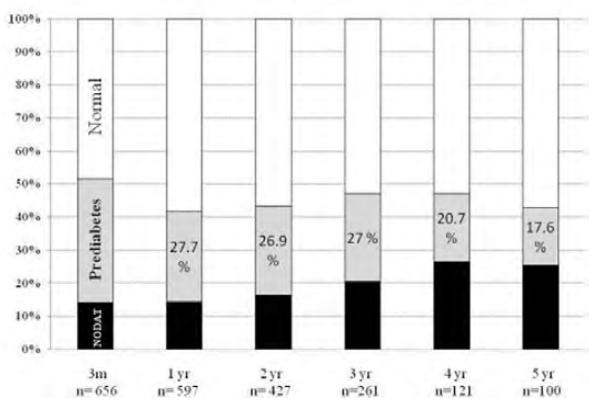
**Introduction and Aims:** The long-term evolution, beyond 12 months after transplantation, of prediabetes and new onset diabetes after transplantation (NODAT) is scarcely known. Moreover, in stable patients little evidence is available on the evolution from prediabetes to NODAT or the reversibility of both alterations to normal glucose metabolism or the incidence of prediabetes.
**Methods:** Eight Spanish centers contributed 50-100 non-diabetics scheduled for renal transplantation. Post-operatively, patients underwent oral glucose tolerance test (OGTT) at 3months and annually during 5 years. Patients were categorized in each period as **Normal**, **Prediabetic**: impaired fasting glucose (IFG: glucose ≥100 <126 mg/dL), impaired glucose tolerance (IGT: 2-h glucose ≥140 <200 mg/dL) or **NODAT** (ADA criteria). Prevalence, incidence and changes between these three categories were analyzed. Immunosuppresive therapy was CNI+MMF+low dose steroids in 82.9%.
**Results:** We evaluated 656 patients at 3 months, 597 at 1yr, 427 at 2yr, 261 at 3yr, 121 at 4yr and 100 at 5yr. At each period˜50% had NODAT or prediabetes. NODAT ranged from 14% (3-m) to 25.3 % (5yr), and prediabetes from 37.4% (3-m) to 17.6% (5yr). The most frequent prediabetic alteration was IGT: 23.8 % (3-m) to 13.6 % (5yr). Prediabetes evolved into NODAT (16.3%) or normality (37.2%) and 46.5% remained prediabetic (3 year incidence). Most normal and NODAT patients remained stable during follow-up.
**Conclusions:** NODAT and prediabetes are highly frequent after renal transplantation. The prevalence of prediabetes seems higher than in the general population (6-8% in Spain). So, its consequences (cardiovascular disease, evolution to diabetes) deserve further study.

Figure 1




TO025

## TO026 VILDAGLIPTIN IN NEW-ONSET DIABETES AFTER KIDNEY TRANSPLANTATION IS SAFE AND EFFICENCIENT -RESULTS FROM THE VIENNA VINODAT TRIAL

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**Introduction and Aims:** New-onset diabetes after transplantation (NODAT) is a severe complication after kidney transplantation. Randomized studies that evaluate anti-diabetic drugs in these patients are spare. In spite of the impaired kidney function, dipeptidyl peptidase-4 (DPP-4) inhibitors seem to be an interesting novel approach for the treatment of NODAT. The aim of this study was to assess the safety and efficacy of the DDP-4 inhibitor vildagliptin in newly diagnosed NODAT in stable kidney transplant patients.
**Methods:** This randomized, placebo-controlled, double-blind, phase II trial was performed to assess the glycemic control in patients with newly diagnosed NODAT as defined by a 2-hour plasma glucose (2HPG) level ≥ 200 mg/dL.A total of 32 patients were randomized to receive vildagliptin or placebo for 3 months. Patients were counseled regarding life-style interventions. After three months oral glucose tolerance tests (OGTTs) were performed and HbA1c levels along with body mass index (BMI), metabolic and safety parameters were evaluated. Furthermore, possible long-lasting effects of vildagliptin on β-cell function were assessed by an OGTT one month after study drug discontinuation.
**Results:** There were no differences in baseline data with regard to fasting plasma glucose levels, HbA1c, 2HPG, time after transplantation, immunosuppression, and BMI. In the vildagliptin group 2HPG (vildagliptin: 182.7 mg/dL; placebo: 231.2 mg/dL; $p \leq 0.05$) and HbA1c (vildagliptin: 6.1 %; placebo: 6.5 %; $p \leq 0.05$) values were significantly reduced. Furthermore, HbA1c was still significantly reduced one month after study drug discontinuation. Adverse events were mild in nature and occurred at a similar rate in both groups. Life-style modification alone was not sufficient to improve glycemic control.
**Conclusions:** Vildagliptin was safe and effective in patients with newly diagnosed NODAT after renal transplantation in addition to life-style modification. **Trial registration:** ClinicalTrials.gov NCT00980356.