

JOURNAL WATCH

Our experts highlight the most important research articles across the spectrum of topics relevant to the field of diabetes management

Expert panel: Prasad Bichu, University of Missouri, Columbia, MO, USA; Preethi Yerram, University of Missouri, Columbia, MO, USA; Pranav Dalal, University of Missouri, Columbia, MO, USA; Adam Whaley-Connell, University of Missouri, Columbia, MO, USA; Charlie Dong, Indiana University School of Medicine, IN, USA

Pistrosch F, Passauer J, Herbrig K, Schwanebeck U, Gross P, Bornstein SR. Effect of thiazolidinedione treatment on proteinuria and renal hemodynamic in Type 2 diabetic patients with overt nephropathy. *Horm. Metab. Res.* doi:10.1055/s-0032-1314836 (2012) (Epub ahead of print).

In this prospective double-blinded trial, 28 patients with Type 2 diabetes mellitus (T2DM) with urinary albumin excretion >300 mg/24 h and an estimated glomerular filtration rate of <60 ml/min were given either rosiglitazone (RSG) 4 mg twice daily or matching placebo for 52 weeks in addition to their baseline antidiabetic therapy. Renal plasma flow and glomerular filtration rate were determined before and after blockade of nitric oxide by intravenous administration of *N*-monomethyl-L-arginine. A significant reduction in proteinuria (2.4 ± 1.1 , 1.2 ± 0.6 , 1.5 ± 0.7 g/day; $p < 0.05$) was noted in the RSG-treated group at baseline, 26 weeks and 52 weeks, respectively, whereas placebo did not influence proteinuria (1.6 ± 0.6 , 1.6 ± 0.8 , 1.7 ± 0.8 g/day). Although glomerular filtration rate and renal plasma flow did not change significantly during the study, RSG improved the intrarenal nitric oxide bioavailability. These results suggest a possible

renoprotective effect of RSG in patients with advanced diabetic nephropathy.

– By Prasad Bichu, Preethi Yerram, Pranav Dalal & Adam Whaley-Connell

Hecking M, Haidinger M, Döller D et al. Early basal insulin therapy decreases new-onset diabetes after renal transplantation. *J. Am. Soc. Nephrol.* 23, 739–749 (2012).

This 1-year, proof-of-concept clinical trial randomized 50 renal transplant recipients to either immediate postoperative isophane insulin for evening blood glucose >140 mg/dl (treatment group), or short-acting insulin and/or oral antidiabetic agents for blood glucose >180–250 mg/dl (standard-of-care control group). All patients in the treatment group had blood glucose >140 mg/dl in the immediate postoperative period and were treated with basal insulin. In total, 92% of the controls had blood glucose >200 mg/dl and 72% of the controls received standard-of-care antihyperglycemic treatment. During follow-up, the treatment group had 73% lower odds of new-onset diabetes after transplantation (OR: 0.27) than the control group. All patients in the treatment group were insulin-independent 1 year after transplantation, whereas seven (28%) of 25 controls



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required hypoglycemic agents. There was no difference in insulin sensitivity between the two groups, but the treatment group showed better β -cell function on follow-up. This study suggests a decreased incidence of development of new-onset diabetes after transplantation with the use of basal insulin during the postoperative period, probably secondary to insulin-mediated protection of β cells.

– By Prasad Bichu, Preethi Yerram,
Pranav Dalal & Adam Whaley-Connell

Cohen RV, Pinheiro JC, Schiavon CA et al. Effects of gastric bypass surgery in patients with Type 2 diabetes and only mild obesity. *Diabetes Care* 35(7), 1420–1428 (2012).

The aim of this study was to assess the long-term effects of Roux-en-Y gastric bypass surgery on Type 2 diabetics who had mild obesity. The study enrolled 66 Brazilian diabetic patients with BMI in the range of 30–35 kg/m². The patients had been followed-up for 6 years after the surgery. The findings from this study are very similar to previous reports on the surgical outcomes from more obese subjects with a BMI of >35 kg/m². During 6 years of postoperation, 88% patients had diabetes remission, 11% had glycemic improvement, and 1% had no change compared with the baseline data. HbA_{1c} significantly dropped from 9.7 ± 1.5 to 5.9 ± 0.1%. Insulin resistance and pancreatic β -cell function were improved. Risk factors for cardiovascular disease including hypertension, hypercholesterolemia and hypertriglyceridemia were also improved. It was concluded that the Roux-en-Y gastric bypass surgery could be used in moderate obese diabetics as effectively as in patients with a BMI of >35 kg/m².

– By Charlie Dong

Harrison LB, Adams-Huet B, Raskin P, Lingway I. β -cell function preservation after 3.5 years of intensive diabetes therapy. *Diabetes Care* 35(7), 1406–1412 (2012).

The objective of this study was to examine the effects of intensive therapies on the preservation of β -cell functions in treatment-naive newly diagnosed Type 2 diabetics. Fifty eight patients from the Dallas (TX, USA) area were enrolled to the study. All subjects were given 3-month treatment with insulin plus metformin before they were randomized into two groups: insulin plus metformin (INS) and triple oral therapy (TOT) with metformin, glyburide and pioglitazone. The duration of the trial was 3.5 years. Pancreatic β -cell functions were preserved in both INS and TOT groups, indicated by no significant changes in C-peptide and glucose levels during the mixed-meal challenge tests from baseline or between the two groups. Glycemic control was similar in both groups (HbA_{1c}: 6.35 ± 0.84% in the INS group and 6.59 ± 1.94% in the TOT group). Weight increased in both groups although the TOT group tended to gain more weight than the INS group. It was concluded that early and intensive therapy could help preserve β cells for at least 3.5 years in newly diagnosed Type 2 diabetes patients.

– By Charlie Dong

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Journal Watch highlights some of the most important papers recently published in the field of diabetes management and research. The editorial team welcomes recommendations for relevant papers for inclusion in future issues.

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