Table 1. APPEL 2: Results.

Venous glucose concentrations (mmol/L)	Open-loop	Closed-loop	p value
Overall	9.0	8.7	0.74
Postprandial breakfast	9.5	8.2	0.36
Post exercise	7.5	11.4	0.001
Postprandial lunch	9.4	11.7	0.15
Sensor glucose concentrations	**Open-loop**	**Closed-loop**	**p value**
Overall	0.32	1.6	0.24
Postprandial breakfast	1.6	4.5	0.001
Post exercise	-2.2	-4.8	0.01
Postprandial lunch	2.6	1.5	0.22

Combined Intensive BP and Glycemic Control Has No Benefit in Reducing CV Risk in Patients with T2DM

Written by Rita Buckley

The Action to Control Cardiovascular Risk in Diabetes (ACCORD) study was a randomized, multicenter clinical trial [NCT00000620] that was conducted in 77 clinical sites in the United States and Canada. The objective of the study was to independently test the impact of three medical strategies to reduce cardiovascular disease (CVD) complications and microvascular complications in type 2 diabetes (T2DM) patients with high cardiovascular (CV) risk (intensive vs standard blood pressure [BP] and/or glycemic control, or statin alone vs statin + fenofibrate). Patrick J. O'Connor, MD, Health Partners Research Foundation, Minneapolis, Minnesota, USA, reported that none of the ACCORD prespecified microvascular outcomes was significantly reduced in participants who were intensively treated for both glycemia and BP compared with those who were treated with either regimen alone, signifying the lack of an additional beneficial effect from combined intensive treatment.

Dr. O'Connor presented data for 4733 patients (mean age 62 years, mean baseline BP 139/76 mm Hg, mean baseline HbA1C 8.3%) who received either standard (goal <140 mm Hg) or intensive (goal <120 mm Hg) BP or standard (HbA1C 7.0% to 7.9%) or intensive (HbA1C <6%) glycemic therapy. Participants were required to have stable T2DM for more than 3 months, HbA1C 7.5% to 11%, and high CV risk (clinical or subclinical disease or ≥2 risk factors). Eligibility also included those aged <80 years with a systolic BP 130 to 160 mm Hg (with 0 to 3 medications), 161 to 170 mm Hg (with 0 to 2 medications), or 171 to 180 mm Hg (with 0 to 1 medication); urine protein <1.0 gm/24 hrs or equivalent; and serum creatinine ≤1.5 mg/dL.

The primary composite outcome was the development of renal failure, or retinal photocoagulation or vitrectomy to treat retinopathy. Other outcomes included nephropathy (development of incident micro- or macroalbuminuria or renal failure), diabetic eye complications (retinal photocoagulation or vitrectomy to treat retinopathy; eye surgery for cataract extraction; or 3-line decrease in visual acuity), neuropathy (score of >2.0 on the Michigan Neuropathy Screening Instrument, loss of vibratory sensation, or loss of light touch).

Over a mean follow-up period of 4.7 years, the primary microvascular composite outcome occurred in 527 of 4733 subjects, including 11.4% of subjects in the intensive BP group and 10.9% in the standard BP arm (HR, 1.08; 95% CI, 0.91 to 1.28). There was no significant difference between patients who received standard versus intensive BP intervention. Of the 9 outcome measures, only the development of microalbuminuria was significantly (HR, 0.84; p=0.02) impacted by treatment (intensive arm 20.8% vs 25.0% for standard arm).

For the primary microvascular composite in the glycemic arms, there was no significant difference between patients who received standard versus intensive therapies. Of the 9 outcome measures, 3 were significantly impacted by treatment (Table 1). There were no significant interactions between the intensive BP and glycemia interventions.

Table 1. Significantly Impacted Outcome Measures.

Outcome Measure	Intensive Arm	Standard Arm	Hazard Ratio	p value
Development of macroalbuminuria	5.3%	7.6%	0.68	0.002
Loss of vibratory sensation	42.4%	46.9%	0.89	0.02
Loss of pressure sensation	11.5%	14.9%	0.76	0.001

Triple Therapy with Liraglutide + Metformin + Insulin Detemir Improves Glycemic Control With No Weight Gain and Low Rates of Hypoglycemia

Written by Maria Vinall

Although metformin is the established first-line treatment option for type 2 diabetes mellitus (T2DM), there is no general consensus regarding which treatment to use