**Levels of β-cell Dysfunction and Insulin Resistance Differ Between Europeans and North Americans with Recently-Diagnosed Diabetes in The ADOPT Study**

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**Background and Aims:** The phenotype of type 2 diabetes varies around the world with differing contributions from insulin resistance and insulin secretion (β-cell dysfunction). **Materials and Methods:** To determine whether these two parameters differ between North America and Europe, we examined baseline data from Caucasian subsets with recently-diagnosed (< 3 years) diabetes from North America (n = 1,756) and Europe (n = 2,008) participating in the ADOPT study. ADOPT is a randomised, double-blind clinical trial designed to determine whether the response of drug-naive patients with type 2 diabetes to initial monotherapy differs between rosiglitazone, metformin and a β-cell secretagogue (glibenclamide). **Results:**

| | **North America** | **Europe** | ***P*** |
|---|---|---|---|
| Age | 55.9 | 58.5 | < 0.0001 |
| % Male | 56.4 | 60.9 | 0.005 |
| BMI (kg/m$^2$) | 33.0 | 30.9 | < 0.0001 |
| Waist circumference (cm) | 108.0 | 103.7 | < 0.0001 |
| $HbA_{1c}$ (%) | 7.3 | 7.2 | 0.0006 |
| Fasting plasma glucose (mmol/l) | 8.5 | 8.4 | 0.02 |
| Fasting plasma insulin (pmol/l) | 167.6 | 135.1 | < 0.0001 |
| Fasting proinsulin/insulin (%)* | 29 | 39 | < 0.0001 |
| HOMA %S* | 38.1 | 47.4 | < 0.0001 |
| HOMA %B* | 69.8 | 65.7 | < 0.0001 |
| * represent geometric mean, otherwise all data expressed as means | | | |

The North American cohort included less males, was younger, and more obese including an increase in central adiposity. Glycaemic differences were small but, in keeping with their increased central adiposity, the North American cohort was more insulin resistant as determined by HOMA %S and reflected in elevated fasting insulin levels. In contrast, the European cohort had worse β-cell function as quantified by HOMA %B accompanied by a higher proinsulin to insulin ratio. When adjusted for demographic characteristics and measures of obesity, HOMA %S and the proinsulin to insulin ratio remained significantly different but not HOMA %B. **Conclusions:** We conclude that there are differences in levels of insulin resistance and β-cell dysfunction in North Americans and Europeans with recently diagnosed diabetes which are partly, but not completely, explained by differences in adiposity. The ADOPT study will examine whether these differences influence the response to the initial pharmacologic treatment of type 2 diabetes.