Abstract: P3341

Micro and macrovascular damage across the glycemic spectrum among women and men from general population

Authors:
M. Roos¹, E. Aribas¹, L. Chaker¹, C. Klaver¹, F. Ahmadizar¹, M. Kavousi¹, ¹Erasmus Medical Centre - Rotterdam - Netherlands (The),

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Background: Type 2 diabetes mellitus (T2DM) is a global epidemic that is strongly associated with micro- and macrovascular complications. Head to head comparisons of micro- and macrovascular dysfunction across the glycaemic spectrum among women and men from large population-based cohorts are sparse.

Purpose: To investigate associations of impaired serum fasting glucose (IFG) and T2DM with markers of micro- and macrovascular damage among women and men from general population.

Methods: We included 10,920 women and men (>45 years) from a large prospective population-based study. We applied linear and logistic regression analyses to examine the cross-sectional associations between IFG and T2DM with markers of micro- and macrovascular damage including estimated glomerular filtration rate (eGFR), retinopathy, carotid intima-media thickness (cIMT), carotid plaque (CP), carotid-femoral pulse-wave velocity (PWV), and ankle-brachial index (ABI), adjusted for cardiovascular risk factors.

Results: Mean age was 65.09±10.0 years, 11.8% had IFG and 12.2% were T2DM patients. The majority of population were women (57.2%). In the fully adjusted models, compared to individuals with normal glucose levels (<6.1 mmol/l), IFG was independently associated with PWV (β; 95% CI: 0.011; 0.002–0.021) among men. T2DM was independently associated with larger burden of CP (Odds ratio (OR); 95% CI: 1.57; 1.13–2.17), and higher eGFR (β; 95% CI: 2.17; 0.62–3.72) among women and with larger burden of retinopathy (OR; 95% CI: 1.92; 1.30–2.85), higher cIMT (β; 95% CI: 0.010; 0.01–0.02), and PWV (β; 95% CI: 0.03; 0.01–0.04) among men.

Conclusions: IFG and T2DM were associated with micro- and macrovascular damage. Compared to non-diabetics, diabetic men had larger burden for markers of microvascular damage including retinopathy while diabetic women had larger burden of macrovascular damage including CP. Both IFG and T2DM were also associated with age-related macrovascular markers such as cIMT and PWV. Proper screening of macrovascular changes at earlier stages of dysglycemia and before the overt T2DM is crucial for prevention and early treatment of end-organ damage.