**Predicting when heart failure precedes atherosclerotic disease as the first major cardiovascular event in type 2 diabetes: Findings from the REWIND and ORIGIN trials**

**Aims**: Heart failure (HF) may occur in people with type 2 diabetes without prior coronary disease. This study sought risk factors associated with cardiovascular disease (CVD) manifesting first as HF, rather than the more typical first presentation of atherosclerotic CVD.

**Methods**: ORIGIN and REWIND trial participants with type 2 diabetes but free of CVD (N=6175; 64±7 years, 50% men) were followed for ~5.8 years for CVD appearing as HF (HF hospitalization or death), atherosclerotic CVD (myocardial infarction, stroke, angina, or revascularization), or other CVD. Multi-state Poisson models quantified event-specific associations with clinical risk factors.

**Results**: Among 1024 people to develop CVD, HF occurred before any other CVD event in 16.8% of cases. Older age, higher BMI and worse albuminuria were more strongly associated with HF appearing first (p<0.05). Conversely, higher LDL cholesterol and HbA1c favoured atherosclerotic disease as the first CVD (p<0.05). The proportion of CVD manifesting first as HF thus varied substantively depending on the risk factor profile (Figure).

**Conclusion**: Unique risk factors for HF vs. ASCVD enable prediction of how CVD may first manifest in type 2 diabetes. HF as the first CVD event is more common with older age, obesity and albuminuria.

A screenshot of a computer screen

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