

EASD Abstract 5

Gender differences in cardiovascular risk, treatment, and outcomes: a post-hoc analysis from the REWIND trial

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Background and aims: Cardiovascular disease (CVD) is the leading cause of death in women and more common in those with type 2 diabetes (T2D). Evidence suggests that the development of T2D adversely affects metabolic and CVD risk factor profiles more in women than men. The aim of this analysis was to investigate gender differences in risk factor management and outcomes in the REWIND trial.

Materials and methods: Analysis was performed on a subset of the REWIND participants by excluding patients with missing data at baseline (BL) or 2 years for HbA1c, systolic BP, LDL-cholesterol, and concomitant medications, or BL history of CVD either missing or unknown. Gender differences in BL characteristics, cardioprotective therapies use at BL and after two years, achievement of relevant treatment targets, and observed cardiovascular (CV) outcomes were analysed. The risk for CV outcomes including fatal/nonfatal stroke, fatal/nonfatal myocardial infarction, CV death, all-cause mortality, and heart failure hospitalisation in women versus men were analysed using Cox proportional hazards models adjusted for randomised treatment and key baseline characteristics identified using stepwise variable selection. Time-to-event analysis was performed in the subgroups with and without CVD history using Cox proportional hazards regression models, including gender, subgroup, randomised treatment, and the gender-by-subgroup interaction.

Results: Of 9901 study participants with either high CV risk or established CVD, 4589 (46.3%) were women. Significantly fewer women than men had a history of CVD (20.0% vs 41.4%; $P < 0.001$). Although the majority of women met clinically relevant treatment targets for blood pressure (96.7%) and lipids (72.8%) at BL, fewer women than men were at target for relevant clinical targets of ACE inhibitor/ARB use, lipid control/statin use, or aspirin use ($P < 0.001$ for all). Overall, women had a lower risk than men for all CV outcomes except fatal/nonfatal stroke, a pattern echoed among the subgroup without a history of CVD at BL. Compared to men (Figure), women with a history of CVD had a similar risk for stroke, heart failure hospitalisation, all-cause mortality, and CV death.

Conclusion: In this international trial cohort of patients with T2D and high CV risk or established CVD, women, overall, were less likely than men to reach treatment targets for CV risk management. Nonetheless, they remained at lower risk for all adverse CV outcomes except stroke. These findings warrant further investigation in women with T2D.