

RISK FACTORS

Sex-dependent cardiovascular risk

In a *post-hoc* analysis of >30,000 high-risk patients from two randomized, controlled trials, women had a ~20% lower risk of composite cardiovascular end points than men. The high proportion of women in these studies allowed researchers to assess drug-independent, sex-specific outcomes.

Data from 25,620 patients (26.7% women) from ONTARGET and 5,926 patients (43.0% women) from TRANSCEND were analyzed (overall follow-up median 56 months). In these trials, treatment with telmisartan, with or without ramipril, was tested in individuals aged ≥ 55 years with high-risk cardiovascular disease. After adjustment for various potential confounders, women had a 19% and 21% lower risk than men of the primary (cardiovascular death, myocardial infarction, stroke, or hospitalization for heart failure) and secondary (cardiovascular death, myocardial infarction, or stroke) end points, respectively. These differences were driven by a 22% reduced risk of myocardial infarction in female patients. Women

experienced the primary or secondary end points, or a myocardial infarction an average of 5.7 years, 6.3 years, and 10.7 years later than men, respectively.

The risk of myocardial infarction was both increased by diabetes and reduced by alcohol consumption to a greater extent in women than in men. The physiological mechanisms for sex-dependent differences in cardiovascular risk require further study, but these disparities should be remembered when recruiting participants for clinical trials, which the researchers claim “are often hampered by [having] few female patients enrolled”.

Gregory B. Lim

Original article Kappert, K. *et al.* Impact of gender on cardiovascular outcome in patients at cardiovascular high risk: analysis of the Telmisartan Randomized Assessment Study in ACE-Intolerant Subjects with Cardiovascular Disease (TRANSCEND) and the Ongoing Telmisartan Alone and in Combination with Ramipril Global Endpoint Trial (ONTARGET). *Circulation* doi:10.1161/CIRCULATIONAHA.111.086660