

Sex Differences in Lipid Profiles and Treatment Utilization Among Young Adults With Acute Myocardial Infarction: Results from the VIRGO Study

Article Publication

Background

- The risks for morbidity and early mortality following acute myocardial infarction (AMI) are greater for young women than young men.¹
- These sex-related differences may be due in part to differences in lipid profiles, which are predictive of cardiovascular outcomes.^{2,3}
- **Objective:** The investigators compared lipid/lipoprotein profiles and statin treatment in young women and men after hospitalization for AMI to determine if sex-related differences in the profiles may contribute to the differences in morbidity and mortality.

Methods

- The study population included participants from the prospective cohort study Variation in Recovery: Role of Gender on Outcomes of Young AMI Patients (VIRGO).⁴ The population was composed of 2,219 adults aged 18 to 55 years and hospitalized for AMI.
- Levels of serum lipids and lipoproteins were evaluated at baseline and 1 month post-discharge for AMI.
- Patient characteristics and use of statins, including dosage, were evaluated.
- The associations of lipid/lipoprotein profiles with sex and other patient characteristics were evaluated using multivariable linear regression analyses.

Results

- Total cholesterol and low-density lipoprotein cholesterol (LDL-C) levels decreased substantially from baseline to 1 month post-discharge in women and men; however, high-density lipoprotein cholesterol (HDL-C) levels did not substantially change for either sex.
- After controlling for multiple differences in patient characteristics, women had slightly more favorable lipid/lipoprotein profiles at baseline than men of similar ages: higher levels of HDL-C and HDL large particle, lower levels of LDL small particle, and lower total cholesterol-to-HDL-C ratio.
- Statin use was similar between the sexes during admission and 1 month post-discharge.
- Over 90% of adults were discharged on a statin, but only ~40% received high-intensity statin treatment. Compared to men, a smaller proportion of women received statins at discharge (90.0% vs. 95.3%, $p<0.01$) and high-intensity statin treatment (39.0% vs. 45.1%, $p=0.02$), but the differences were modest.

Conclusions

- The differences in lipid/lipoprotein profiles between women and men after AMI were modest. Thus, such sex-related differences are not likely a major contributor to the differences in morbidity and mortality.
- Fewer than half young patients received high-intensity statin treatment, even though it is recommended⁵ following AMI.

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