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# Predictive value of the left ventricular function in coronary artery disease: should we tailor risk-stratification for men and women?

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**Introduction:** Left ventricular function (LVF) is a well-known recognized predictor of major adverse cardiovascular events (MACE) in patients with coronary artery disease (CAD) and is recommended in all CAD patients by the guidelines of the European Society of Cardiology. As non-obstructive CAD is more common among women, the predictive value of LVF might differ between men and women.

**Purpose:** The aim of this study is to evaluate sex-related differences in the predictive value of LVF in patients with suspected or documented CAD.

**Methods:** Patients with suspected or documented CAD who underwent transthoracic echocardiography (TTE) with LVF assessment in a tertiary center between 2014 and 2021 were included. LVF was classified with left ventricular ejection fraction (LVEF) as normal ($\geq$52%) or impaired (LVEF <52%). MACE were defined as death, heart failure (HF), acute coronary syndrome (ACS) and stroke. Time-to-first-event analysis was performed with Kaplan-Meier survival analysis and multivariate Cox proportional hazard analysis adjusting for age as covariate.

**Results:** In total, 1763 patients were included of which 59% were men (age 65±12 years) and 41% were women (age 65±13 years). 225 (22%) men and 100 (14%) women had impaired LVF (p<0.001). Median follow-up time was 1.9 years (1.2–3.8); median event-free survival for men and women was 1.6 years (1.0–3.3) and 1.6 years (1.0–3.0), respectively (p=0.8). MACE and deaths were reported in 422 patients (23% of men, 25% of women) and 15 patients (12% of men, 10% of women), respectively. Impaired LVF was associated with a significantly higher risk of MACE in both men (HR 1.3, 95% CI: 1.2–1.4, p<0.005) and women (HR 1.2, 95% CI: 1.0–1.3, p=0.02).

**Conclusions:** Impaired LVF was more common in men with suspected or documented CAD. In patients with impaired LVF, the predictive value of LVF is similar for both men and women.

MACE_men_women