Abstract: **P5530**

The low expression of circulating microRNA-19a represents an additional mortality risk in stable patients with vascular disease

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**Background:** Secondary prevention of atherosclerotic vascular diseases represents a cascade of procedures to reduce the risk of future fatal and non-fatal cardiovascular events. We sought to determine whether the expression of selected microRNAs influenced mortality of stable chronic cardiovascular patients.

**Methods:** The plasma concentrations of five selected microRNAs (miR-1, miR-19, miR-126, miR-133 and miR-223) were quantified in 826 patients (mean age 65.2 years) with stable vascular disease (6–36 months after acute coronary syndrome, coronary revascularization or first-ever ischemic stroke). All-cause and cardiovascular mortality rates were followed during our prospective study.

**Results:** Low expression (bottom quartile) of all five miRNAs was associated with a significant increase in five-year all-cause death, even when adjusted for conventional risk factors, treatment, raised troponin I and brain natriuretic protein levels [hazard risk ratios (HRRs) were as follows: miR-1, 1.65 (95% CI: 1.16–2.35); miR-19a, 2.27 (95% CI: 1.59–3.23); miR-126, 1.64 (95% CI: 1.15–2.33); miR-133a, 1.46 (95% CI: 1.01–2.12) and miR-223, 2.05 (95% CI: 1.45–2.91)]. Nearly similar results were found if using five-year cardiovascular mortality as the outcome. However, if entering all five miRNAs (along with other covariates) into a single regression model, only low miR-19a remained a significant mortality predictor; and only in patients with coronary artery disease [3.00 (95% CI: 1.77–5.08)], but not in post-stroke patients [1.63 (95% CI: 0.94–2.86)].

**Conclusions:** In stable chronic coronary artery disease patients, low miR-19a expression was associated with a substantial increase in mortality risk independently of other conventional cardiovascular risk factors.