56ASM-0157 | Does early vascular aging predict future acute coronary syndrome cases?

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Background: Acute coronary syndrome (ACS) is associated with high number of pre-hospital and hospital mortality as well as morbidly. Modern cardiology are in need of defining early prognostic markers in patients presenting ACS. We hypothesized if early vascular aging may be associated with the coronary artery disease (CAD) course and severity, and is a predictor for ACS.

Materials and Methods: 120 patients with stable CAD validated on coronary angiography were enrolled in the study (mean age was 58.45 ± 14.60 years, male = 59%). Early vascular aging was defined using baseline tonometry and pulse wave velocity. Acute coronary syndrome was diagnosed according to the latest international guidelines. Multivariable logistic analysis was used to assess possible predictive value of early vascular aging. All models were adjusted with variables and risk factors and β value was evaluated to compare sizes.

Results: Mean calendar age was 58.45 ± 14.60 years and mean vascular age 65.25 ± 15.80 years. Among 46 percent of patients with early vascular aging, men were 62 %. Mean follow-up time was 4.6 ± 2.5 years. Linear regression analysis revealed that advanced vascular arterial aging (β: 0.182, $P < 0.05$) was associated with ACS whilst calendar age (β: 0.045, $P > 0.05$) was not. Older vascular aging was associated with 2.2 time higher increase of ACS cases whereas older calendar age was only 1.2-fold increase. When we analyzed mortality from ACS, advanced vascular aging was significantly associated with it ($P < 0.05$) and was independent predictor for it (β: 0.247, $P < 0.05$). Even though calendar age was slightly associated with mortality it was not predictor for it (β: 0.013, $P > 0.05$).

Conclusions: Early vascular aging is an independent risk factor of acute coronary syndrome and seems to be superior to calendar age in the course of disease. Further studies are needed with large amount of patients to clarify.