EARLY-ONSET MENOPAUSAL VASOMOTOR SYMPTOMS ARE ASSOCIATED WITH ENDOTHELIAL DYSFUNCTION: THE NATIONAL HEART LUNG AND BLOOD INSTITUTE-SPONSORED WOMEN’S ISCHEMIA SYNDROME EVALUATION (WISE) STUDY

Poster Contributions
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Background: Vasomotor symptoms (VMS) have been linked to endothelial dysfunction. Relations may depend on the timing of VMS. We tested relations between early onset VMS and brachial artery flow mediated dilation (FMD) in the Women’s Ischemia Syndrome Evaluation (WISE).

Methods: 104 women undergoing coronary angiography for signs/symptoms of ischemia also underwent brachial artery ultrasound FMD testing. They were postmenopausal, aged ≥50, and not using hormone therapy. They reported their history of VMS and categorized as: never VMS; VMS beginning ≤ age 42 (early-onset); and ≥ age 42 (traditional-onset), cutpoints determined by receiver operating characteristic analysis.

Results: The mean age was 67±8 years, 10% were non-white, and the median FMD was 1.56% (range: -19.9-27.6%). Compared to traditional-onset VMS, early-onset VMS was associated with significantly lower FMD [beta (standard error)=-4.43 (2.10), p=.038; Figure] in linear regression models. No difference was found for never VMS [beta (standard error)=1.21 (1.51), p=.42, versus traditional-onset VMS]. Relations persisted controlling for age, race, hormone use history, and obstructive coronary artery disease.

Conclusion: Early VMS are associated with endothelial dysfunction, indicated by lower FMD. This suggests that early-onset VMS is a mechanistic pathway for endothelial dysfunction and may be useful for risk prediction. Future work should replicate findings and test targeted prevention strategies in women with early VMS.