



Conference Abstract

YI 1.3 Retinal Microvascular Calibers and Incident Depressive Symptoms: The Multi-Ethnic Study of Atherosclerosis

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ABSTRACT

Background: Cerebral microvascular dysfunction may contribute to depression via disruption of brain structures involved in mood regulation, but evidence is scarce. The retina allows for direct visualisation of a microvascular bed that shares anatomical and physiological similarities with the cerebral microvasculature. We investigated the association between baseline central retinal arteriolar and venular calibers (CRAE and CRVE) and 7.8-year change of CRAE and CRVE and incident depressive symptoms.

Methods: Longitudinal data are from the Multi-Ethnic Study of Atherosclerosis (MESA) of 3,999 participants (62.3 ± 9.7 years; 48.2% women; 26.6% black) without depressive symptoms at baseline. Presence of depressive symptoms, defined as Centre for Epidemiological Studies Depression Scale score ≥ 16 and/or use of antidepressant medication, was determined in 2002–2004 (baseline, MESA exam 2) and at three follow-up examinations every 1.5–2 years thereafter. Fundus photography was performed at MESA exam 2 and exam 5 after a mean of 7.8 years.

Results: After a mean follow-up of 6.1 years, 21.7% ($n = 869$) had incident depressive symptoms. After adjustment for socio-demographic, lifestyle and cardiovascular factors, one SD larger baseline CRVE ($21.8 \mu\text{m}$) was associated with a higher risk of depressive symptoms (hazard ratio: 1.10; 95% confidence interval: 1.02–1.18), but one SD larger baseline CRAE ($14.1 \mu\text{m}$) was not (hazard ratio: 1.05; 0.98–1.13). Neither 7.8-year change of CRAE nor CRVE were associated with depressive symptoms (odds ratios: 1.06; 0.90–1.24, and 1.06; 0.91–1.23, respectively).

Conclusions: Larger baseline CRVE is associated with a higher incidence of depressive symptoms. This might support the hypothesis that cerebral microvascular dysfunction contributes to the development of depression.

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