Are advanced glycation end products in skin associated with vascular dysfunction markers? A meta-analysis

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Abstract
Evidence exists regarding the association between advanced glycation end products and different cardiovascular disease subclinical processes, such as arterial stiffness and atherosclerosis. With this systematic review and meta-analysis, we aimed to provide a synthesis of the evidence regarding the association of arterial stiffness measured by pulse wave velocity and atherosclerosis measured by carotid intima media thickness with skin autofluorescence. A systematic search was performed using: MEDLINE (PubMed), SCOPUS, and Web of Science, until 30 March 2020. Cross-sectional studies or baseline data from prospective longitudinal studies were considered. The DerSimonian and Laird method was used to calculate the pooled estimates of correlation coefficients and the corresponding 95% confidence intervals (CI) for the association of pulse wave velocity and carotid intima media thickness with skin autofluorescence. Twenty-five studies were included in the systematic review and meta-analysis, including 6306 subjects. The pooled correlation coefficient was 0.25 (95% CI: 0.18, 0.31) for pulse wave velocity and skin autofluorescence, and 0.31 (95% CI: 0.25, 0.38) for carotid intima media thickness and skin autofluorescence. This systematic review and meta-analysis provide a synthesis of the evidence showing a positive weak association of pulse wave velocity and carotid intima media thickness with skin autofluorescence.

Author keywords
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