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Retinal Photography: A Window into the Cardiovascular-Brain Link in Adolescent Bipolar Disorder

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ABSTRACT

Objective:
The burden of cardiovascular disease in bipolar disorder (BD) exceeds what can be explained by traditional cardiovascular risk factors (CVRFs), lifestyle, and/or medications. Moreover, neurocognitive deficits are a core feature of BD, and are also related to CVRFs. We examined retinal vascular photography, a proxy for cerebral microvasculature, in relation to CVRFs, peripheral microvascular function, and neurocognition among BD adolescents.

Methods:
Subjects were 30 adolescents with BD and 32 healthy controls (HC). Retinal photography was conducted using a Topcon TRC 50 DX, Type IA camera, following pupil dilation. Retinal arteriolar and venular caliber was measured, from which the arterio-venular ratio (AVR) was computed. All measures were conducted masked to participant diagnosis. Peripheral arterial
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