

Hatch J, Collinger K, Moody A, Olowoyeye O, Zhan JQ, Goldstein BI.

Non-invasive Vascular Imaging is Associated with Cardiovascular Risk Factors Among Adolescents with Bipolar Disorder.

Pediatr Cardiol. 2015;36(1):158-64ABSTRACT

Abstract Cardiovascular disease (CVD) is exceedingly prevalent among adults with bipolar disorder (BD), implicating BD adolescents as a high-risk group for CVD. Noninvasive ultrasound measures of vascular structure (via carotid intima media thickness [cIMT]) and function (via flow-mediated dilation [FMD]) predict future CVD, and are associated with traditional CVD risk factors among adolescents without mood disorders. This study examined, for the first time, the association of cIMT and FMD with CVD risk factors among adolescents with BD. The presence of multiple potential confounds among adolescents with BD, including various medications and mood states, informs the need to demonstrate whether cIMT and FMD are associated with CVD risk factors in this population specifically. Participants were 30 adolescents, 13–19 years old, with BD, without CVD. High-resolution ultrasonography was used to evaluate vascular structure (cIMT) and function (FMD). Analyses examined associations of cIMT and FMD with traditional CVD risk factors. cIMT was significantly positively associated with systolic blood pressure and waist circumference. FMD was significantly negatively associated with waist circumference, body mass index, triglycerides, and glucose, and positively associated with high-density lipoprotein. cIMT and FMD are associated with traditional CVD risk factors among adolescents with BD. Irrespective of numerous potential confounds, non-invasive vascular ultrasound approaches may be used as CVD risk proxies among adolescents with BD as they are for other adolescents.