

Environmental factors influencing the link between childhood ADHD and risk of adult coronary artery disease.

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Abstract

Yorbik et al. reported novel findings regarding a hypothesized relationship between childhood attention-deficit hyperactivity disorder (ADHD) and later risk for coronary heart disease in adulthood. The authors found that mean platelet volume (MPV), a marker of platelet reactivity and a presumable biomarker in patients with cardiovascular disease, was significantly elevated in children with ADHD compared to healthy controls. The mechanistic importance of this novel discovery remains unknown and warrants clarification. We have made the novel proposition that environmental exposure to the agricultural and combustion air pollutant, nitrous oxide (N₂O), may be an etiological contributor to neurodevelopmental disorders. Clinical studies suggest that N₂O may enhance platelet hyperaggregation, possibly via its biphasic role as an MAO inhibitor especially at trace levels of exposure or via the generation of oxidative stress. Therefore, this correspondence briefly details the hypothesis that altered biochemical profiles in neurodevelopmental disorders, derived from chronic environmental exposure to the agricultural and combustion air pollutant, N₂O, may promote coronary artery disease in adulthood.