Infectious diseases are associated with carotid intima media thickness in adolescence

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Inflammatory risk factors in childhood, e.g. obesity, impact on carotid artery intima media thickness (CIMT), an early indicator of atherosclerosis. Little is known on potential infectious origins in childhood. We investigated the association between number of reported different childhood infectious diseases and CIMT in adolescence.; 288 SAPALDIA offspring (8-21years) underwent a clinical examination in 2010-2011: anthropometry, blood pressure, CIMT, blood draw (cardiovascular biomarkers, cotinine). Offspring and parents gave information on individuals' and family health, child's vaccination status, infectious diseases and other early life factors. Life-time prevalence of bronchitis, pneumonia, tonsillitis, otitis, mononucleosis, meningitis, appendicitis, and scarlet fever were investigated, separately, and as cumulative infectious disease score. Multilevel adjusted linear regression analysis on the association between subjects' CIMT average and infectious diseases score was performed, stratifying by sex.; Youth (mean age 14.8åyrs; 53% female) reported on average 1.3 of the listed infectious diseases; 22% boys and 15% girls reported ≥3 infectious diseases (pă=ă0.136). Two-thirds were vaccinated according to recommendations (boys 56%, girls 61.5%, pă=ă0.567). Sex-stratified analyses yielded significantly increased CIMT in boys with ≥3 infectious diseases vs. none (0.046ămm, 95%CI 0.024; 0.068). In girls, the effect was of same direction but statistically non-significant (0.011ămm, 95%CIă-0.015; 0.036).; The SAPALDIA Youth study complements current evidence on infectious origins of atherosclerosis in adults. The larger effects observed in boys may relate to a higher vulnerability of the vasculature and/or to infectious pathogens. Our data are suggestive of an early impact of childhood infectious diseases on vascular health.
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