Published in final edited form as:

Lancet. 2017 November 04; 390(10107): 2035. doi:10.1016/S0140-6736(17)31941-4.

Diet, atherosclerosis, and helminthic infection in Tsimane

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In *The Lancet*, Hillard Kaplan and colleagues (March 17, p 1730)¹ noted that more than two-thirds of Tsimane adults suffer from intestinal helminths. Despite such a high inflammatory burden, the authors found a very low prevalence of coronary atherosclerosis, as measured by coronary artery calcium. Preclinical and clinical studies show that inflammation is involved in the pathogenesis of atherosclerosis and reductions in inflammatory processes could result in cardiovascular benefits. Furthermore, autoimmune diseases are associated with an increased cardiovascular risk and a worse outcome following cardiovascular events.²

Epidemiological studies have found an inverse relationship between exposure to helminth parasites and the incidence of inflammatory and autoimmune disease.^{3,4} Evidence from animal studies shows that helminth infections exert strong immunomodulatory activity and are able to inhibit, alter, and modify immune responses. Their ability to alter or suppress immune responses could be beneficial to the host through the control of excessive inflammatory responses. Animal models and preclinical trials suggest helminth infections have a beneficial effect on inflammatory diseases, and helminth therapy has been proposed as a possible treatment for autoimmune and other inflammatory disorders in human beings.^{4,5} Notably, Kaplan and colleagues¹ found that C-reactive protein was only marginally associated with the presence of coronary artery calcium, and the other inflammatory markers they measured were inversely proportional to coronary artery calcium. Rather than being considered an inflammatory risk for cardiovascular disease, helminth infection might be protective against the development of atherosclerosis. This hypothesis deserves further investigation.

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I declare no competing interests.

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