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High density lipoproteins: The good, the bad and the not so ugly

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High density lipoproteins (HDL) display many cardio-protective properties, including their involvement in reverse cholesterol transport, their ability to lower inflammation and function as antioxidants. However, these cardio-protective properties may be diminished in the presence of chronic inflammation, as occurs in certain conditions/diseases, which include obesity, polycystic ovarian syndrome, diabetes and cardiovascular disease. Under conditions of increased inflammation the inflammatory marker serum amyloid A is released into the circulation, where it rapidly associates with HDL and hinders or negates the cardio-protective properties of this lipoprotein.

Therefore, diets that may enhance inflammation, such as ones rich in saturated fatty acids may augment SAA release, while ones rich in naturally occurring antioxidants, including lycopene, lutein, zeaxanthin and beta-cryptoxanthin may hinder or prevent its release.

Therefore, this study will examine the role of diet and how this may influence the anti-atherogenic properties of HDL. It will also assess if SAA is a superior molecule to identify increased inflammation, compared to other more widely cited inflammatory molecules including C-reactive protein and the interleukins.

Biography

Jane McEneny obtained her PhD from Queen's University, Belfast, UK and is currently a senior lecture in the Centre for Public Health, also at Queen's University Belfast, UK. McEneny has authored 75 papers, is on the editorial board of several journals, and is a reviewer for several eminent journals and granting bodies. Currently, McEneny's main focus of research is the role of inflammation and how this influences the anti-atherogenic properties of high density lipoproteins. The main subject populations under investigation include those with characteristics of the metabolic syndrome, diabetes and known cardiovascular disease.

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