Abstract

This paper summarizes the recent findings from studies investigating the potential environmental modulation of the genetic variation of apolipoprotein genes on metabolic traits. We reviewed nutrigenetic studies evaluating variations on apolipoproteins-related genes and its associated response to nutrients (mostly dietary fatty acids) or any other dietary or environmental component. Most revised research studied single nucleotide polymorphism (SNP) and specific nutrients through small intervention studies, and only few interactions have been replicated in large and independent populations (as in the case of -265T > C SNP in APOA2 gene). Although current knowledge shows that variations on apolipoprotein genes may contribute to the different response on metabolic traits due to dietary interventions, evidence is still scarce and results are inconsistent. Success in this area will require going beyond the limitations of current experimental designs and explore the hypotheses within large populations. Some of these limitations are being covered by the rapidly advance in high-throughput technologies and large scale-genome wide association studies.

Keywords