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[Review](#) [Neurogenetics](#). 2024 Apr 16. doi: 10.1007/s10048-024-00757-9. Online ahead of print.

The Apo gene's genetic variants: hidden role in Asian vascular risk

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Abstract

Vascular risk factors, including diabetes, hypertension, hyperlipidemia, and obesity, pose significant health threats with implications extending to neuropsychiatric disorders such as stroke and Alzheimer's disease. The Asian population, in particular, appears to be disproportionately affected due to unique genetic predispositions, as well as epigenetic factors such as dietary patterns and lifestyle habits. Existing management strategies often fall short of addressing these specific needs, leading to greater challenges in prevention and treatment. This review highlights a significant gap in our understanding of the impact of genetic screening in the early detection and tailored treatment of vascular risk factors among the Asian population. Apolipoprotein, a key player in cholesterol metabolism, is primarily associated with dyslipidemia, yet emerging evidence suggests its involvement in conditions such as diabetes, hypertension, and obesity. While genetic variants of vascular risk are ethnic-dependent, current evidence indicates that epigenetics also exhibits ethnic specificity. Understanding the interplay between Apolipoprotein and genetics, particularly within diverse ethnic backgrounds, has the potential to refine risk stratification and enhance precision in management. For Caucasian carrying the APOA5 rs662799 C variant, pharmacological interventions are recommended, as dietary interventions may not be sufficient. In contrast, for Asian populations with the same genetic variant, dietary modifications are initially advised. Should dyslipidemia persist, the consideration of pharmaceutical agents such as statins is recommended.

Keywords: Apolipoprotein; Asian; Ethnic; Genetic; Variants; Vascular Risk Factor.

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