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# WHAT CAN LIPID GENETICS DO FOR PATIENTS WITH DYSLIPIDEMIA?

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## Abstract

In the past decade, many studies on lipid genetics have been performed to identify novel signals associated not only with hereditary dyslipidemia, but also with potential treatment targets or drug response.

Classic examples of genetic disorders of lipid metabolism include familial hypercholesterolemia. However, genome-wide association studies and newer sequencing studies regarding other lipid phenotypes discovered or validated several new targets for lipid-lowering therapy. Some of them were used to develop specific therapeutics: i.e. *PCSK9*, *NPC1L1*, *APOC3*, or *ANGPTL3*.

Some genetic variants have been reported to be associated with efficacy and safety of lipid lowering agents. They include genes that code proteins participating in pharmacokinetics. In patients with familial hypercholesterolemia, drug response partly depends on the class of mutations. Because lipid lowering is crucial for these patients, genetic information may be very helpful to choose appropriate treatment intensity in this population,

Although application of genetic information has not been widespread in patients with dyslipidemia, lipid genetics is being used in many places for treating these patients more effectively and precisely.

***Keywords***

Genomics, pharmacology, atherosclerosis, lipoproteins