The Truth About Omega-3: Is It Really a 'Good Fat'? Pros

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Although many studies have been performed on omega-3 fatty acids, their cardiovascular protective effect has been controversial to date.

In the past 10 years, clinical studies using omega-3 fatty acids did not show clear benefit in lowering cardiovascular risk. For example, mixed and low dose omega-3 fatty acids did not induce risk reduction in mixed population of primary and secondary prevention. Furthermore, a few meta-analyses revealed no difference in clinical outcomes after addition of omega-3 fatty acids. Surprisingly, in a very recent REDUCE-IT study, eicosapentaenoic acid (EPA) 4g added to ongoing statin therapy reduced composite cardiovascular events by 25% in patients with cardiovascular disease or diabetes mellitus+risk factors. It recalled us the JELIS study that showed EPA 1.8g on top of statin decreased composite events by 19%, particularly in patients of secondary prevention about a decade ago. In contrast, recent VITAL study reported that mixed omega-3 fatty acid 840 mg did not show reduction in cardiovascular risk. Furthermore, ASCEND study revealed that mixed omega-3 fatty acid 840 mg did not reduce cardiovascular risk. Collectively, addition of high-dose omega-3 fatty acid, particularly EPA, on statin brought significant cardiovascular benefit. This finding seems more obvious in population of secondary prevention. Low-dose and mixed omega-3 fatty acids for primary prevention did not show similar effect.

Although omega-3 fatty acids including EPA lower blood triglyceride levels, the mechanism for cardiovascular risk reduction is not completely understood. Omega-3 fatty acids not only decrease VLDL production and blood triglyceride levels, but also decrease arachidonic acid-derived prostaglandin and leukotriene, and improve endothelial function and modulate of immune cell behavior.