Lecture Abstract or Synopsis for publication

STATIN IS A PANACEA?

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Abstract

Statin therapy is the standard for management of dyslipidemia in patients with established cardiovascular disease and those at elevated risk. It is very effective in both the prevention and treatment of cardiovascular events and is one of the few drugs that have shown to improve clinical outcomes in patients with cardiovascular disease. Further high dose high intensity statin therapy has been shown to improve outcome when compared to lower doses of the same statin or moderate intensity statins. However, patients at high risk still have significant residual risk despite high intensity statin therapy and we need to target other pathways to inhibit atherosclerosis, inflammation, and further lower LDL-C. Also, although statins are generally well tolerated, certain patients experience adverse events such as myalgia, myopathy, rhabdomyolysis, and liver enzyme elevation that prohibit its use. Therefore, it is my opinion that statins cannot be a panacea and we need to focus on other methods of reducing residual risk.

In patients with partial intolerance to statins or those do not reach target goals, we may consider the addition of ezetimibe, a NPC1L1 inhibitor. Another option could be the addition of PCSK-9 inhbitors. PCSK-9 inhibitors such as evolucumab and alirocumab can reduce LDL-C very effectively, and have been shown in randomized trials to further improve clinical outcomes in those with residual risk after statin therapy. There are other targets that we need to consider such as the inflammatory process, since one of the major mechanisms of atherosclerosis progression is inflammation. Recently, canakinumab, a monoclonal antibody targeted at interleukin-1 beta, was shown to improve outcomes in post-MI patients with persistent elevation of hs-CRP, in the CANTOS trial. Finally, since the final mechanism of an adverse event from atherosclerosis involves thrombosis, hence the term ‘atherothrombosis’, antithrombotic agents may have the possibility to improve outcomes in those with chronic atherosclerosis, as was shown in the COMPASS randomized trial.

In summary, statin therapy is very effective in lowering LDL-C levels, inhibiting atherosclerotic progression, and lowering the risk for atherosclerosis-associated acute cardiovascular events. It definitely should be and is the first-line treatment for patients with atherosclerosis. However, because these patients still have significant residual risk, it is difficult to conclude that statin therapy is the panacea of atherosclerosis. There are other adjunctive therapies on top of statin therapy that may be of significant benefit for these patients.