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New class of cholesterol drug proves safe and effective for patients with dyslipidemia

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Treatment with PCSK9 antibodies reduces mortality and produces profound reductions in LDL-cholesterol and lipoprotein in patients with dyslipidemia. The results of this systematic review and meta-analysis are being published in *Annals of Internal Medicine*.

Having elevated LDL-cholesterol levels contributes substantially to the development of coronary artery disease and the risk of cardiovascular events. Current guidelines recommend that patients with elevated cholesterol be treated with statins to delay the development of atherosclerotic plaque and lower the risk of cardiovascular complications. However, a sizable proportion of patients taking statins do not achieve recommended LDL-C target levels and others discontinue treatment because of drug-related side effects.

Monoclonal antibodies are a new class of cholesterol drugs that target a cholesterol-regulating protein called PCSK9. Researchers reviewed 24 randomized controlled trials to assess the efficacy and safety of PCSK9 antibodies in adults with elevated cholesterol levels. The data show that compared to no anti-PCSK9 treatment, PCSK9 antibodies are associated with lower odds of all-cause mortality and myocardial infarction. Treatment with PCSK9 antibodies also significantly reduced LDL-cholesterol and lipoprotein and were well-tolerated by patients. This new class of cholesterol drug seems to be safe and effective for treating patients with dyslipidemia.

The authors of a related editorial note that the most remarkable finding

of the meta-analysis is the reduction in all-cause mortality, cardiovascular mortality, and myocardial infarction with PCSK9 inhibitors. Does this mean we have reached a new era in lipid lowering treatment? Not yet, they suggest. The trials analyzed were not specifically designed or powered to assess and detect differences in clinical outcomes or in rare adverse events. More long-term trials with specific cardiovascular disease endpoints and monitoring of a broad range of adverse effects are needed.

More information: *Annals of Internal Medicine*, www.annals.org/article.aspx?doi=10.7326/2957

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