Clinical trial finds novel therapy markedly reduces lipoprotein(a) levels in people with cardiovascular disease

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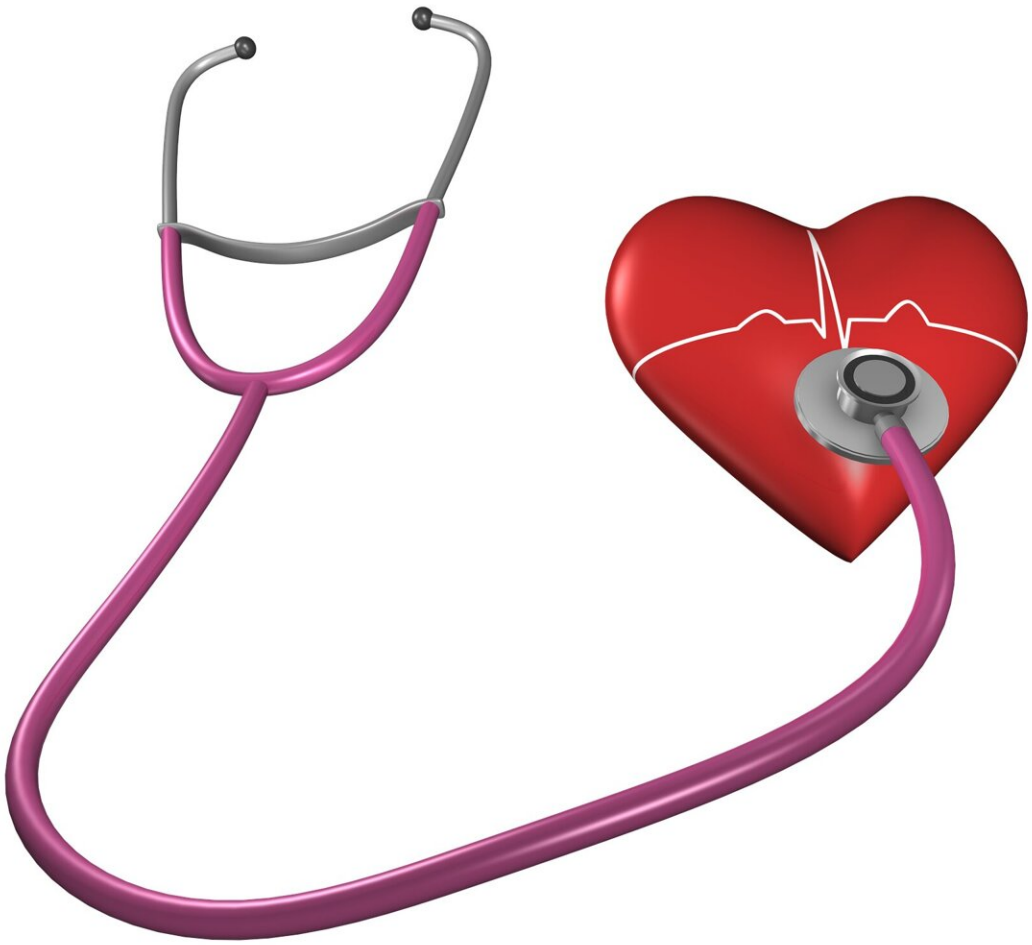

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Lipoprotein(a) is a special type of bad cholesterol that is believed to contribute to heart disease, but there are no approved pharmacological therapies to decrease its concentration in the bloodstream. Olpasiran is an investigational drug that reduces lipoprotein(a) concentration by degrading the RNA that codes for a protein that is an essential part of the molecule.

Researchers at Brigham and Women's Hospital, a founding member of the Mass General Brigham health care system, conducted a phase 2, randomized, placebo-controlled clinical trial of olpasiran in patients with established cardiovascular disease to evaluate its safety and tolerability and to identify an optimal dose of olpasiran for reducing lipoprotein(a) levels. Their findings are published in the *New England Journal of Medicine*.

The trial included 227 patients who received one of four doses of olpasiran and 54 who received a placebo. They found that patients who received higher doses of olpasiran had a more than 95% drop in lipoprotein(a) over 36 weeks compared to placebo. The treatment was not associated with serious side effects apart from occasional injection site swelling and related mild reactions.

"These study results show that marked and sustained reduction of lipoprotein(a) is possible through RNA interference using olpasiran," said lead author Michelle O'Donoghue, MD, MPH, Cardiovascular Division, Brigham and Women's Hospital.

"These findings set the stage for a much larger phase 3 trial to definitively evaluate if lowering lipoprotein(a) translates into better outcomes. Olpasiran is a very promising therapy for individuals with high lipoprotein(a) levels who currently don't have any effective therapies to lower its concentration."

More information: Michelle L. O'Donoghue et al, Small Interfering RNA to Reduce Lipoprotein(a) in Cardiovascular Disease, *New England Journal of Medicine* (2022). DOI: 10.1056/NEJMoa2211023

Provided by Brigham and Women's Hospital