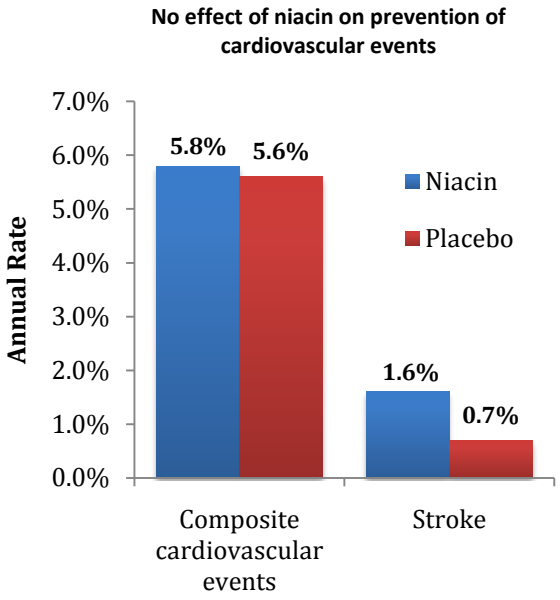
iDiS PEARL: Prompt Evidence Assessment and Review of the Literature

Bad AIM? A stopped trial raises questions about niacin use

The clinical issue: Niacin raises HDL ("good") cholesterol and was thought to prevent cardiovascular events, even in patients whose LDL levels are well controlled. However, its effects on clinical outcomes have not been rigorously evaluated. AIM-HIGH was a large randomized trial designed to measure the benefits of niacin in its extended release formulation, marketed as Niaspan. In mid-2011, the study was stopped 18 months before its scheduled completion date because niacin did not demonstrate any beneficial effects.[1] This new information has raised questions about whether niacin should still be used, and if so, in whom.

The clinical trial: AIM-HIGH was funded by the National Heart, Lung, and Blood Institute; it enrolled 3,414 patients with cardiovascular disease and low HDL (≤40 mg/dL for men or ≤50 mg/dL for women) as well as high triglycerides. All patients received simvastatin with or without ezetimibe to maintain their LDL in a target range of 40-80 mg/dL, and were then randomized to also receive placebo or extended-release niacin at a dose titrated up to 1500-2000 mg per day, as tolerated.[2] The primary outcome was a composite of fatal or nonfatal MI, stroke, acute coronary syndrome, or coronary revascularization.

The trial was stopped early because niacin showed no benefit in preventing cardiovascular events (see Figure). In addition, patients randomized to receive niacin had 28 strokes (1.6%) compared with 12 strokes (0.7%) in the control group, although some strokes in the niacin group occurred 2 months to 4 years after the drug had been discontinued. The complete results of the trial have not yet been published, but are expected to be presented at the meeting of the American Heart Association in November, 2011.



Implications for practice: **The results of the AIM-HIGH trial indicate that niacin should not be used to raise HDL in patients with cardiovascular disease. The bulk of existing evidence continues to affirm that reducing LDL with statins is the most effective drug therapy for preventing cardiovascular events in patients at risk.** The trial's findings apply only to patients whose LDL levels are adequately managed; the role of niacin in the treatment of other patients remains unclear. For example, niacin may still benefit patients whose LDL levels cannot be well controlled with a statin, although this will require further study. Likewise, the results of AIM-HIGH do not provide guidance for the use of niacin for primary prevention in patients without cardiovascular disease. A much larger study, HPS-THRIVE study, has randomized more than 25,000 patients to study the efficacy of niacin; its results are expected in 2013 and should definitively establish the role of this drug.[4]

More details on cholesterol management can be found in the iDiS monograph on lipid-lowering drugs, available at www.rxfacts.org.

References: 1. http://www.nih.gov/news/health/may2011/nhlbi-26.htm; 2.http://www.ncbi.nlm.nih.gov/pubmed/21392609;

3. http://www.fda.gov/Drugs/DrugSafety/PostmarketDrugSafetyInformationforPatientsandProviders/ucm256841.htm

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These are general recommendations only; specific decisions should be made by the treating physician based on an individual patient's clinical condition.

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