

## **Effect of Niacin on Carotid Atherosclerosis in Patients at Low-Density Lipoprotein-Cholesterol Goal but with High Lipoprotein (a) Levels: 2-Year Follow Up Study**

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### **Abstract**

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#### **Objective**

To examine the effect of niacin on the progression of carotid intima-media thickness (IMT) in patients with high level of lipoprotein (Lp) (a).

#### **Methods**

Patients at low-density lipoprotein-cholesterol goal but with Lp (a) >25 mg/dL and mean carotid IMT >0.75 mm were included. Eligible patients were randomized at a 1:2 ratio into one of two groups for 24 months: control or 1,500 mg extended release niacin. The primary study outcomes were the percentage changes in mean and maximal carotid IMT. The percentage change in lipid profiles including Lp (a) was analyzed as a secondary study outcome.

#### **Results**

Among 96 randomized patients, 31 completed the study (mean age: 65 years; male: 44%). At follow-up, the percentage change in mean carotid IMT was not significantly different between the two groups ( $-1.4\% \pm 15.5\%$  and  $-1.1\% \pm 7.3\%$  in the control and niacin groups, respectively,  $p=0.95$ ). The percentage change in maximal carotid IMT was also similar in the two groups ( $0.7\% \pm 16.5\%$  and  $-4.4\% \pm 11.6\%$ , respectively,  $p=0.35$ ). Elevation of high-density lipoprotein-cholesterol tended to be higher in the niacin group ( $p=0.07$ ), and there was a significant difference in the percentage change in hemoglobin A1c between the two groups ( $-1.9\% \pm 2.2\%$  and  $3.3\% \pm 6.7\%$ , respectively,  $p=0.02$ ). Reduction of Lp (a) was greater in the niacin-treated group compared to placebo, but the difference was not statistically significant.

#### **Conclusion**

Treatment with niacin for two years did not inhibit the progression of carotid intima-media thickening in patients with high Lp (a) level. However, this study may have been underpowered to evaluate the primary study outcome.