

# **Measuring Effects of Intima-Media Thickness: An Evaluation of Rosuvastatin**

## **METEOR Trial**

**Presented at the American College of  
Cardiology Annual Scientific Session  
March, 2007**

**Presented by Dr. John R. Crouse III**

# METEOR: Background

- Previous results from A Study to Evaluate the Effect of Rosuvastatin on Intravascular Ultrasound [ASTEROID] illustrated that intensive lipid lowering with rosuvastatin over 24 months resulted in a significant regression of coronary atherosclerosis as measured by intravascular ultrasound.
- However, ASTEROID was not a placebo controlled study and did not have clinical end points.

# METEOR: Background

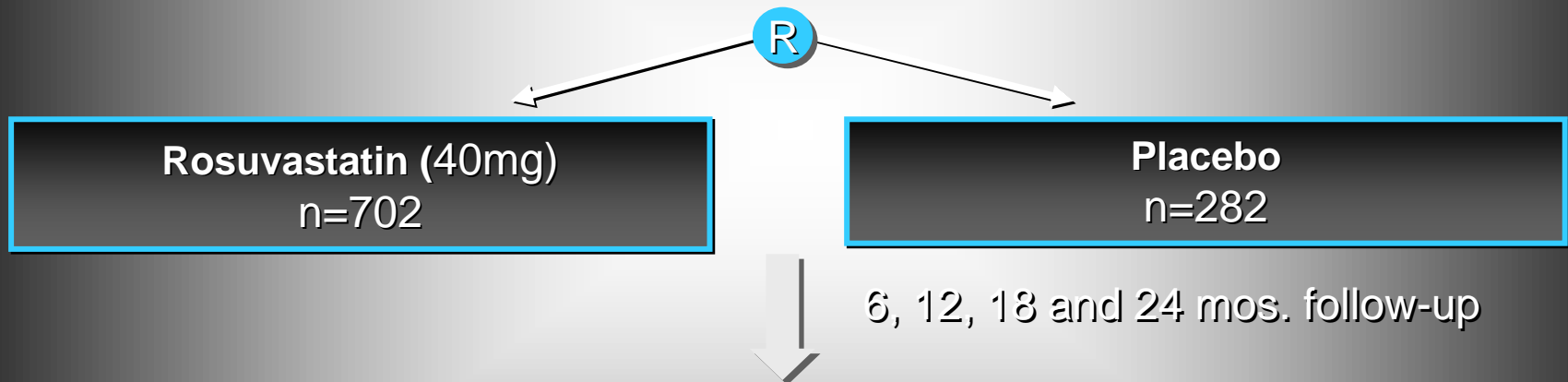
- The goal of the present trial was to evaluate the effect of rosuvastatin compared with placebo on carotid intima-media thickness (CIMT) over 2 years among asymptomatic patients at low risk for cardiovascular disease.

# METEOR Trial: Study Design

984 asymptomatic patients with moderately elevated cholesterol and low risk of CVD according to the National Cholesterol Education Program Adult Treatment Panel III guidelines criteria (0-1 risk factor and LDL 120-190mg/dL or  $\geq 2$  risk factors and LDL 120 to  $<160$ mg/dL with a 10-year coronary heart disease risk  $< 10\%$ ); HDL-C  $\leq 60$ mg/dL; triglycerides  $<500$ mg/dL; evidence of thickening of the walls of the extracranial carotid arteries as measured by B-mode ultrasound (max CIMT between 1.2 and  $<3.5$ mm)

5:2 Randomized. Double-blinded. Placebo-controlled.

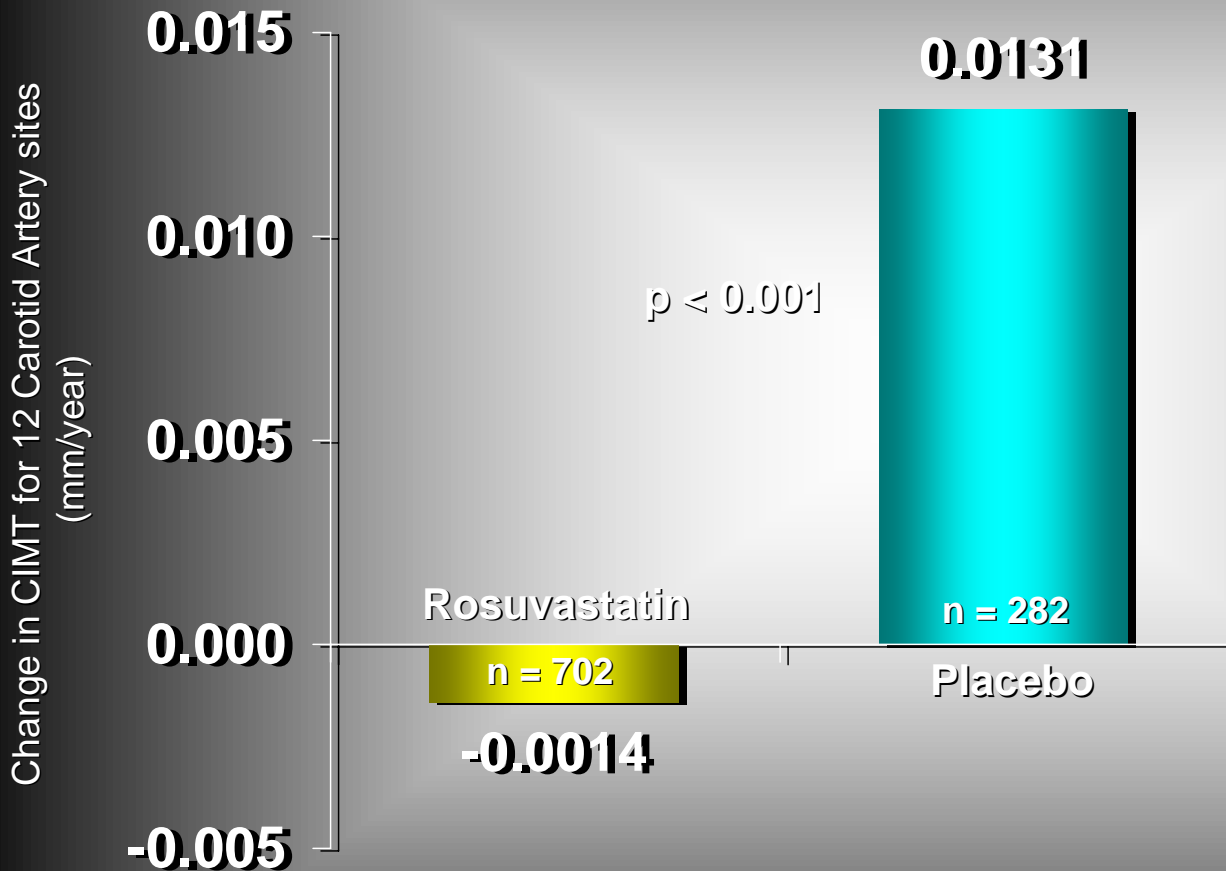
Mean age = 57 years. 40% Female.



- Primary Endpoint: Annualized rate of change in maximum CIMT
- Secondary Endpoint: Annualized rate of change in maximum CIMT derived from the near and far walls of the right and left common carotid artery; the right and left carotid bulb; the right and left internal carotid artery; and annualized rate of change in mean CIMT for the near and far walls of the right and left common carotid artery.

# METEOR Trial: Primary Endpoint

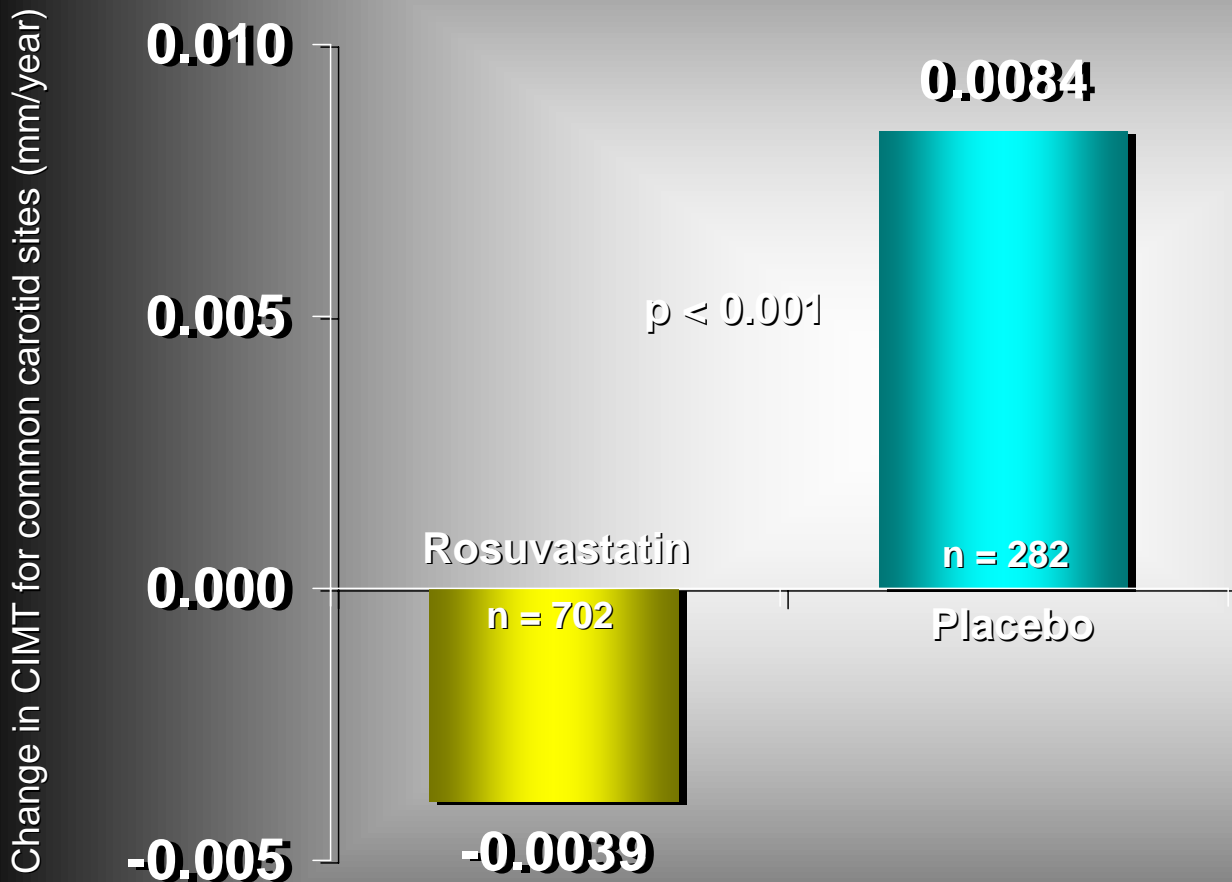
Change in maximum CIMT with rosuvastatin vs. placebo



- After two years, treatment with rosuvastatin was associated with a statistically significant reduction in the rate of progression of CIMT thickening in overall carotid segments, while the placebo group displayed progression ( $p < 0.001$ ).

# METEOR Trial: Secondary Endpoint

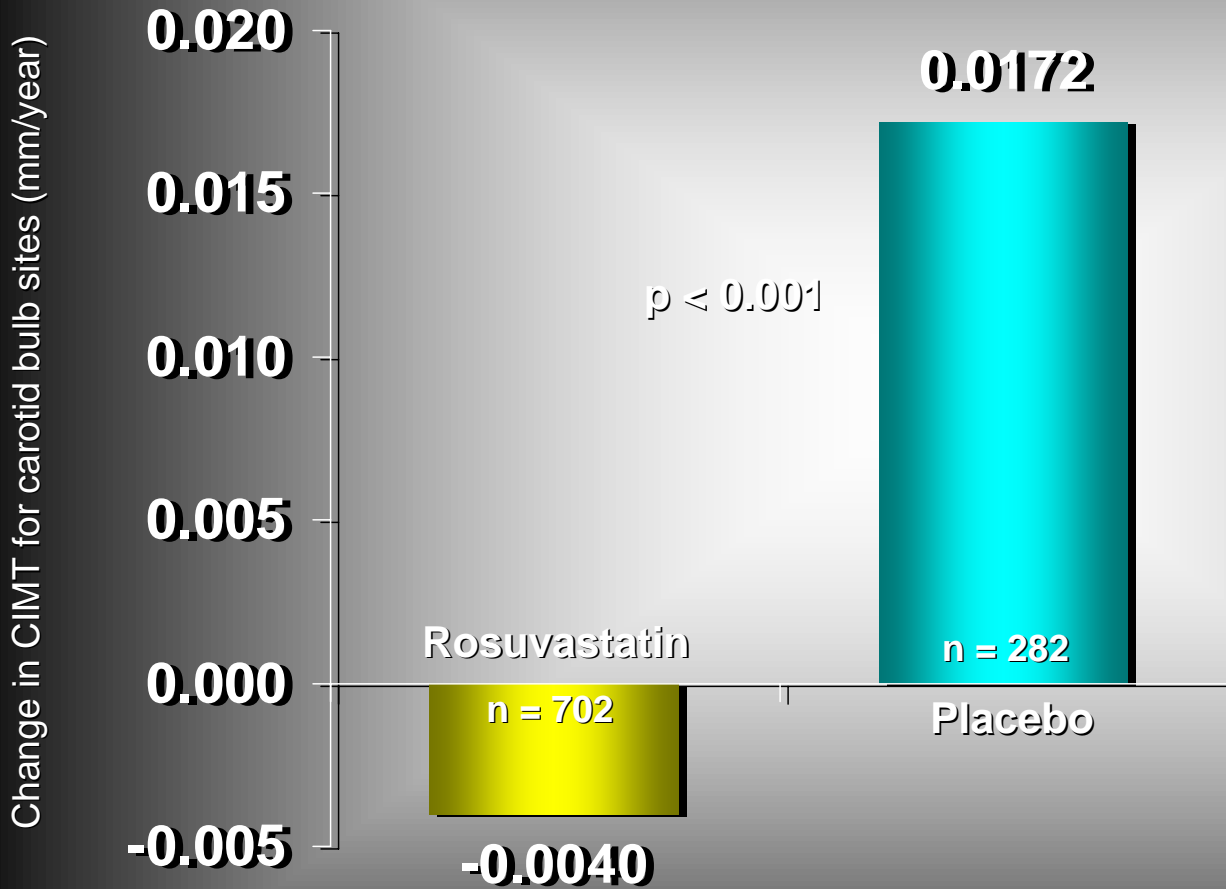
Change in maximum CIMT with rosuvastatin vs. placebo



- After two years, treatment with rosuvastatin was associated with a statistically significant reduction in the rate of progression of CIMT thickening in common carotid sites, while the placebo group displayed progression (p<0.001).

# METEOR Trial: Secondary Endpoint

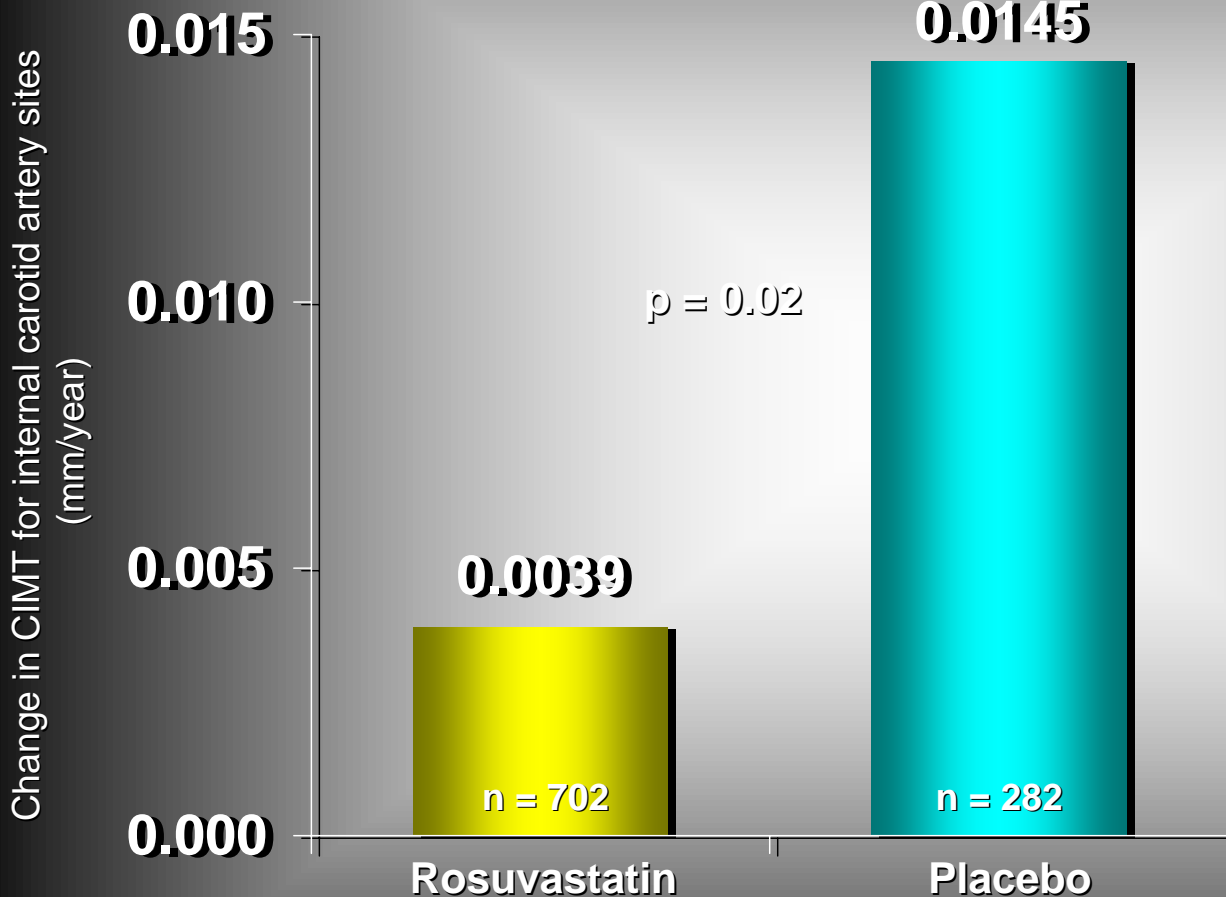
Change in maximum CIMT with rosuvastatin vs. placebo



- After two years, treatment with rosuvastatin was associated with a statistically significant reduction in the rate of progression of CIMT thickening in carotid bulb sites, while the placebo group displayed progression ( $p < 0.001$ ).

# METEOR Trial: Secondary Endpoint

Change in maximum CIMT with rosuvastatin vs. placebo



- After two years, treatment with rosuvastatin was associated with a statistically significant lower progression in CIMT thickening in internal carotid sites as compared with the placebo group (p=0.02)

# METEOR Trial: Limitations

- The impact of aggressive lipid lowering on clinical events was not evaluated in this trial, particularly given the low-risk of the population.
- The larger JUPITER trial will evaluate the impact of rosuvastatin therapy on clinical events in patients with low to normal levels of LDL but elevated levels of CRP.

# METEOR Trial: Summary

- Among asymptomatic patients at low risk for cardiovascular disease, treatment with rosuvastatin was associated with a reduction in CIMT compared with placebo at 2 years.