primary endpoint. The results of JUPITER have been previously published [Ridker et al. *N Engl J Med* 2008].

The current analysis was based on the subgroup of 5695 subjects who were aged ≥70 years (median 74 years; range 70 to 97) at the time of enrollment. When compared with younger patients, those who were aged ≥70 years were more frequently female (51% vs 32%), less often obese (body mass index ≥30 kg/m^2, 32% vs 40%), less frequently current smokers (8% vs 19%), and more frequently had a Framingham risk score >10 (69% vs 41%). Overall, the relative treatment effects of rosuvastatin in individuals ≥70 years were comparable with those seen in the younger patient group. There was no difference between the age groups in the achieved lipid or hsCRP levels (Table 1). There was a significant 39% risk reduction in the primary composite endpoint of CV death, MI, stroke, unstable angina, or revascularization) (HR, 0.61; 95% CI, 0.46 to 0.82; p<0.001) in older patients who were randomized to rosuvastatin compared with those on placebo. Significant reductions were also seen for MI (HR, 0.55; 95% CI, 0.31 to 1.0; p=0.046), stroke (HR, 0.55; 95% CI, 0.33 to 0.93; p=0.023), and the incidence of revascularization or unstable angina (HR, 0.51; 95% CI, 0.33 to 0.80; p=0.003). The older subgroup was at higher risk for the primary endpoint (incidence rate 1.99/100 person-years vs 1.06/100 person-years in younger group) and showed a greater rate of difference on therapy compared with placebo (0.77/100 person-years vs 0.52/100 person-years in the younger group), with an estimated number needed to treat (NNT) for 5 years of 19 versus 29 for subjects aged <70 years to prevent 1 primary endpoint event.

Table 1. Achieved Lipid and hsCRP levels by Age.

Biomarker	Age	36 months	
hsCRP (mg/L)	≥70	2.0 (1.1-4.2)	3.3 (1.8-6.1)
	<70	2.0 (1.2-3.7)	3.6 (1.9-5.9)
LDL (mmol/L	≥70	1.4 (1.1-1.8)	2.7 (2.3-3.1)
	<70	1.4 (1.1-1.8)	2.8 (2.4-3.1)
HDL (mmol/L)	≥70	1.4 (1.1-1.7)	1.4 (1.1-1.7)
	<70	1.3 (1.0-1.5)	1.2 (1.0-1.5)
Triglycerides (mmol/L)	≥70	1.1 (0.9-1.5)	1.3 (1.0-1.8)
	<70	1.3 (0.9-1.7)	1.5 (1.1-2.1)

hsCRP=high-sensitivity C-reactive protein; LDL=low-density lipoprotein; HDL=high-density lipoprotein

The overall risk of serious adverse events was similar for the older subgroup (HR, 1.05; 95% CI, 0.93 to 1.17; p=0.44), with the exception of incident diabetes, for which the risk that was associated with treatment was significant in younger subjects (HR, 1.26; 95% CI, 1.02 to 1.56; p=0.03) but not in the older subgroup (HR, 1.25; 95 % CI, 0.90 to 1.74; p=0.18).

Overall, these results provide reassuring data regarding the efficacy and safety of statin therapy in elderly patients. The trial discussant, Professor Philippe Gabriel Steg, MD, INSERM U-698, Paris, France, said that the trial provides "solid evidence that the benefit seen from rosuvastatin in the overall trial is seen in the elderly subgroup, including a reduction in stroke." Prof. Steg did offer caution that these findings "pertain to a special population: high-risk CV patients with low LDL and elevated hsCRP" and asked whether the results could be extended to patients without elevated hsCRP and to very elderly patients.

A Subpopulation Analysis from the TRITON-TIMI 38 Study

Michelle O'Donoghue, MD, Brigham and Women's Hospital, Boston, MA, reported the results of an analysis of data from a subgroup of patients in the TRITON-TIMI 38 study [NCT00097591; Wiviott et al. *N Engl J Med* 2007] who were receiving proton pump inhibitor (PPI) therapy in addition to a thienopyridine (prasugrel or clopidogrel). The results showed no association between PPI use and an increased risk of cardiovascular (CV) events [O'Donoghue M et al. *Lancet* 2009].

The TRITON-TIMI 38 trial randomized 13,608 subjects with acute coronary syndrome (ACS) and planned percutaneous coronary intervention (PCI) to prasugrel or clopidogrel, in addition to standard therapy. The use of a PPI was at the discretion of the treating physician and was captured on the case report forms. The primary outcome of the study was CV events (defined as CV death, myocardial infarction [MI], or stroke).

At randomization, 4529 (33%) of the subjects were being treated with a PPI. The most frequently used PPIs were pantoprazole (40%) and omeprazole (37%). Subjects who were on a PPI were slightly older than those who were not on a PPI (median age 61 vs 60 years) and were more likely to be women. The PPI group was also more likely to be white, be enrolled at a center in Western Europe or North America, have a history of peptic ulcer disease or lower baseline hemoglobin (all p<0.001), or have an index diagnosis of unstable angina or non-ST-segment MI (p=0.007).

There was no association between the use of a PPI and an increase in the primary endpoint of a major CV event for either clopidogrel or prasugrel (Table 1).

Similarly, the use of a PPI was not associated with an increased risk of MI, stent thrombosis, or urgent revascularization or a decreased risk of bleeding for

patients who were treated with either clopidogrel or prasugrel. Sensitivity analyses demonstrated consistency of the results based on consistency of PPI use (ie, subjects on PPIs at both randomization and at study end), different types of PPIs, and varying durations of follow-up.

Table 1. Primary Endpoint by Use of PPI.

	Event Rate		HR (95% CI)	p value	Adj. HR (95% CI)[1]
	PPI	No PPI			
Clopidogrel	11.8%	12.2%	0.98 (0.84, 1.14)	0.80	0.94 (0.80, 1.11)
Prasugrel	10.2%	9.7%	1.05 (0.89, 1.23)	0.58	1.00 (0.84, 1.20)

Reflects adjustments for known confounders and the propensity to treat with a PPI

Dr. O'Donoghue noted that interpretation of these results may be limited by the fact that use of a PPI was not randomized; thus, there is the potential for residual confounding. In addition, PPIs could be started or stopped during the course of follow-up. She concluded, "Although only a randomized trial of a PPI can definitively establish the safety of combining these two classes of drugs, the current findings do not support the need to avoid concomitant use of PPIs in patients treated with thienopyridines."

Results from SYNTAX

Professor A. Pieter Kappetein, MD, PhD, Erasmus Medical Center, Rotterdam, The Netherlands, presented the 2-year results from the SYNTAX study (NCT00114972), suggesting that coronary artery bypass grafts (CABGs) may be more appropriate for patients with complex three-vessel (3VD) and/or left main coronary (LM) disease, while percutaneous coronary intervention (PCI) may be an acceptable alternative for patients with less complex disease.

SYNTAX was a prospective, multinational, randomized clinical trial that was designed to compare PCI with CABG for the treatment of de novo 3VD and/or LM disease. All subjects were screened by a cardiac surgeon and an interventional cardiologist. Those who were eligible for either treatment were randomized to PCI or CABG, stratified by LM disease and diabetes. Subjects who were suitable for only one treatment were entered into the appropriate SYNTAX registry. All randomized subjects were assigned a SYNTAX score, a novel angiographic tool that is used to measure the complexity of coronary artery disease based on 9 anatomic criteria, including lesion frequency, complexity, and location (www.syntaxscore.com). Higher SYNTAX scores are indicative of patients with more complex disease and increased treatment challenges.

A total of 1800 patients were randomized at 85 sites (CABG, n=897; PCI, n=903). Subjects were aged a mean of 65 years; approximately 25% had diabetes. Mean total SYNTAX score was 29.1 in the CABG arm and 28.4 in the PCI arm. The mean number of lesions was 4.4 in the CABG arm and 4.3 in the PCI arm. Most patients (~66%) had 3VD; approximately 34% had LM disease, most with multiple vessel involvement [Serruys PW et al. *N Engl J Med* 1009].

After 2 years, the primary endpoint of SYNTAX, major adverse cardiac and cerebrovascular events (MACCE; defined as a composite of all-cause death, stroke, myocardial infarction [MI], and repeat revascularization), was significantly (p<0.001) higher in the PCI arm due, in large part, to increased repeat revascularization (PCI 17.4% vs CABG 8.6%). The composite safety endpoint of death/stroke/MI was comparable between the two groups. The rate of MI was significantly increased in PCI patients, whereas stroke remained significantly higher in CABG patients after 2 years of follow-up (Table 1).

Table 1. Two-Year Adverse Event Rates (Time-to-Event).

	CABG	PCI	p value
MACCE	16.3	23.4	0.0002
Death/Stroke/MI	9.6	10.8	NS
Death, all-cause	4.9	6.2	NS
Stroke	2.8	1.4	0.03
MI	3.3	5.9	0.01
Repeat revascularization	8.6	17.4	<0.0001

MACCE = composite of all-cause death, stroke, MI, and repeat revascularization.

The impact of lesion complexity on 2-year clinical outcomes was estimated by examining patient outcomes relative to SYNTAX score tertile (low = 0-22; intermediate=23-32; high ≥33). The rates of MACCE were not significantly different between patients with low SYNTAX scores who were treated with either PCI or CABG (CABG 17.4% vs PCI 19.4%; p=0.63). In patients with intermediate SYNTAX scores, there was a trend toward increased MACCE with PCI (CABG 16.4% vs PCI 22.8%; p=0.06). In the most complex patients (SYNTAX scores ≥33), MACCE was significantly increased in patients who were treated with PCI (CABG 15.4% vs PCI 28.2%; p=0.0001).

In his commentary on the SYNTAX study data, Professor Manuel Attunes, University of Coimbra, Portugal, noted that he expects that the differences in MACCE rates will continue to diverge over time. He cautioned, however, that the application of the SYNTAX results to "real life" should take into account local expertise with both PCI and CABG and that a cost analysis between the two treatments may be warranted, particularly for some centers.