

# Stay the Statin Course During Acute Stroke Care

*Separate studies suggest that discontinuing statins increases neurologic deterioration and mortality.*

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KISSIMMEE, FLA. — Stroke patients who take statins should continue to do so during their acute stroke treatment, because withdrawing the drugs for as brief a time as 3 days is associated with significant worsening of neurologic outcomes, researchers said at the 31st International Stroke Conference.

"Statin use has not been considered essential drugs that must be continued when a patient is hospitalized for stroke," Dr. Florentio Nombela commented in an interview.

"When stroke patients can't swallow, or when we are trying to simplify their medication routines during this time, we often discontinue the statins just to make things easier. Our study shows that this should not be done."

Dr. Nombela of the Hospital Universitario de la Princesa, Madrid, examined statin withdrawal in 89 ischemic stroke patients. During the first 3 days after admis-

sion, statins were withdrawn from 46 patients and continued in 43 patients. All patients began atorvastatin 20 mg/day on day 4 of admission.

Patients from whom statin therapy was withdrawn were nine times more likely than patients who continued on statins to experience early neurologic deterioration (a decrease of at least 4 points on their National Institutes of Health Stroke Scale score).

Early deterioration occurred in 65% of the withdrawal group (30 patients) and 21% of those in the continued therapy group (9 patients).

Upon imaging during days 4-7, patients in the withdrawal group had larger brain infarcts than those in the continued therapy group (74 cm<sup>3</sup> vs. 26 cm<sup>3</sup>).

The withdrawal patients were 3.5 times more likely to have poor functional outcome (modified Rankin Scale score of 2 or higher) at 3 months. In the withdrawal group, 59% had poor functional outcome, compared with 37% of those in the continued therapy group.

Norinna Allen, who is a doctoral student at Yale University, New Haven, Conn., noted that use of lipid-lowering agents may provide some mortality protection when they are administered during the acute phase of stroke treatment, although there is a lack of prospective data to confirm this finding.

Her retrospective chart review included 1,256 patients admitted for ischemic stroke at 32 academic medical centers. Of the group, 41% received a statin during their stroke hospitalization and the rest did not, noted Ms. Allen, who was discussing her findings in an interview at the meeting sponsored by the American Stroke Association.

The chart review indicated only the dispensing of a statin, Ms. Allen pointed out; it did not differentiate between an existing prescription and a new prescription.

Patients who were on statins had a significantly lower rate of in-hospital mortality (1% vs. 5%). In a multivariate analy-

sis, statin use was associated with an 80% decrease in mortality.

There was a trend toward better long-term functional outcomes, Ms. Allen said. Among those who received a statin, 58% were discharged to home (indicative of a good outcome), compared with 53% of those who didn't get a statin.

**Patients in the statin withdrawal group had larger brain infarcts than did those in the continued therapy group.**

DR. NOMBELA

do suggest that statins confer a mortality benefit in heart disease patients, beyond their ability to lower lipids," she noted.

Dr. Nombela noted that research findings have suggested that statins have a profound effect on endothelial function. When the drugs are withdrawn, the levels of nitric oxide drop to below baseline, which causes endothelial dysfunction. The drugs also exert an anti-inflammatory effect that disappears when they are withdrawn. ■



## 2-Year Outcomes of Stenting, Endarterectomy Are Similar

BY TIMOTHY F. KIRN  
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SCOTTSDALE, ARIZ. — In a major study comparing carotid endarterectomy and carotid stenting, 2-year results show similar death and stroke rates for the two procedures, Dr. Rodney A. White said at an international congress on endovascular interventions sponsored by the Arizona Heart Foundation.

And those event rates appear to be better than one would expect based on some previously reported case series and studies, said Dr. White, the vascular surgery division chief at the Harbor-UCLA Medical Center, Los Angeles.

The 1-year results from the study, known as the CARESS (Carotid Revascularization Using Endarterectomy or Stenting Systems) trial, were recently published (*J. Vasc. Surg.* 2005;42:213-9). At 1 year post procedure, there were 30 deaths or strokes in the group of 254 patients who underwent carotid endarterectomy, for an event rate of 14%, and 13 deaths or strokes among the 143 patients who underwent carotid stenting, for an event rate of 10%.

By including acute myocardial infarctions that occurred among the patients the event rates were increased to 14% and 11%, respectively.

At the 2-year follow-up, the number of

events increased somewhat, but the pattern remained the same. The death and stroke rate was 15% for the endarterectomy group and 13% for the stenting group. Adding acute myocardial infarctions did not change the event-rate percentages.

Dr. White did not report on the restenosis or reintervention rates at 2 years. In the previous 1-year follow-up report, restenosis occurred in 4% of the endarterectomy patients and 6% of the stenting patients, a difference that was not statistically significant.

**The number of events rose, but the pattern was the same: The death and stroke rate was 13% in the stenting group and 15% in the endarterectomy group.**

Restenosis was defined as 75% narrowing, or 50% narrowing that required treatment.

A main purpose of the trial was to design a study that reflected current clinical practice, noted Dr. White. Hence, the patients were

not randomized, and almost 70% of the patients in both groups had high-grade, carotid stenosis but were asymptomatic.

Moreover, 51% of the participating physicians—who were located in 14 different centers—were individuals who were able to do either procedure, Dr. White said.

"We now have 2-year data that [support] our original premise that we can get lower event rates both with carotid endarterectomy and carotid stents than are being reported in current clinical trials, if you have the option to do both," Dr. White said. ■

## European Stent Study Shows Low Stroke and Restenosis Rates at 5 Years

BY TIMOTHY F. KIRN  
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SCOTTSDALE, ARIZ. — Carotid stenting results appear to be similar to endarterectomy for at least 5 years after the procedure, according to a cohort of 2,172 patients who were treated at four European centers.

In the cohort, which was enrolled prospectively between 1993 and 2004, the rate of ipsilateral major stroke or death from any cause was 4% at 1 year, 10% by 3 years, and 16% by 5 years, among the 138 patients followed for that long, Dr. Patrick Peeters said at an international congress on endovascular interventions sponsored by the Arizona Heart Foundation.

The restenosis rates were 1% at 1 year, 2% at 3 years, and 3% at 5 years (139 patients), where restenosis was considered to be 50% narrowing imaged with ultrasound.

The results from this series are as good or better than results that have been previously reported for carotid stenting, although many of those procedures were done in the early era, before interventionalists had the experience they have now and before the advent of modern technologies, such as distal protection, noted Dr. Peeters, head of the department of cardiovascular and thoracic surgery at Imelda Hospital, Bonheiden, Belgium.

The previous studies have reported restenosis rates at 1 year ranging from 3% to 8%.

Moreover, although the earliest stud-

ies of carotid stenting had major, perioperative complication rates as high as 9%, 99.7% of the cases in this series were technically successful.

The results with stenting also compare well with endarterectomy, he noted. The European Carotid Surgery Trial reported a rate of major stroke or death of 15% at 3 years, very similar to the 13% rate of this series.

A number of different, self-expanding stents were used in the series, chosen by the individual interventionalists at the time of the procedure, with the most common being a closed-cell, cobalt chromium alloy stent, used in 62% of the patients. And 4% of patients received only balloon dilation.

Although stenting did not make a significant difference in the stroke/death rate compared with ballooning only, it did make a significant difference in the restenosis rate.

The rate of restenosis at 5 years was only 3% in the patients who were stented, but it was 15% in the ballooned-only patients.

Moreover, predilatation of the artery before stent placement also made a significant difference, Dr. Peeters said.

Of the stented patients, 30% were predilated. Their stroke and death rate at 5 years was 10% (33 patients) compared with a rate of 17% for those who were not predilated.

"We can't say why," Dr. Peeters said.

In addition, there was no difference in stroke and death in the series between those patients who were symptomatic or asymptomatic. ■