

# Statins Cut Stroke Risk After Carotid Procedures

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HOLLYWOOD, FLA. — Statin use has been linked with reducing stroke rates and mortality following carotid endarterectomy and may have a similar benefit in patients undergoing carotid artery stenting, Dr. Bruce A. Perler said at ISET2008.

Statin treatment “can make carotid endarterectomy, which is already a terrific operation, even better, and my sense is that it may also improve the outcomes of carotid artery stenting as well,” said Dr. Perler during an international symposium on endovascular therapy.

He based these conclusions on a series of findings on statins collected over several years that dealt with both the clinical ef-

fects in addition to reducing LDL cholesterol. They reduce inflammation, improve endothelial function, cut thrombotic events, have antioxidant activity, stabilize atherosclerotic plaque, and are neuroprotective, he said. The results from several randomized, controlled trials have also shown that statin treatment is highly effective for both the primary and secondary prevention of stroke. “The reduction of stroke is probably independent of reductions in cholesterol,” Dr. Perler said. ■

than 3,000 carotid endarterectomies done at several hospitals in Western Canada. Among more than 2,000 patients with symptomatic carotid artery disease, patients who were on statin treatment before surgery had a 66% drop in their risk of death and a 39% drop in their risk of stroke or death, compared with the patients who were not on statin treatment. Such sharp differences were not seen among the patients with asymptomatic disease. “It makes sense that the patients

with symptomatic carotid disease would have the most benefit from statin treatment because they have the most unstable carotid plaque,” Dr. Perler said. Results from other studies, reported in 2006 and 2007, have shown that statin treatment also seemed to lower the risk of cardiovascular events following carotid artery stenting, and following other types of vascular surgery.

Several actions by statins likely explain these effects. The drugs have pleiotropic ef-

fects in addition to reducing LDL cholesterol. They reduce inflammation, improve endothelial function, cut thrombotic events, have antioxidant activity, stabilize atherosclerotic plaque, and are neuroprotective, he said. The results from several randomized, controlled trials have also shown that statin treatment is highly effective for both the primary and secondary prevention of stroke. “The reduction of stroke is probably independent of reductions in cholesterol,” Dr. Perler said. ■



**Statin treatment can make carotid endarterectomy better, and may improve outcomes from stenting as well.**

DR. PERLER

fects of statin treatment and the impact of statin treatment in both randomized, controlled studies and reviews of observational data. Among the unresolved questions mentioned by Dr. Perler are:

- ▶ How long does the patient need to have been on statin therapy before carotid intervention to experience a benefit?
- ▶ What is the impact of temporarily stopping statin treatment during surgery?
- ▶ Which specific statin, formulation, and dosage have optimal effects?

Because treatment with an oral statin may have to stop for at least a day during and immediately after surgery, the best formulation to use before surgery may be an extended-release statin.

One of the most compelling demonstrations of the power of statin treatment was in an analysis from Dr. Perler and his associates that they first reported in 2005. They reviewed their experience performing carotid endarterectomy on 1,566 patients during 1994-2004. The average age of the patients was 72, 63% were men, 42% were symptomatic, and 657 (42%) were on a statin at the time of their surgery.

During the first 30 days after surgery, the patients who had been on a statin had a significantly reduced rate of stroke and death, compared with the patients who had not received a statin. In a multivariate analysis that controlled for demographic and clinical differences at the time of surgery, statin treatment was linked with an approximately 60% cut in the rate of postoperative stroke and about an 80% cut in the rate of postoperative death. Both reductions were statistically significant.

“We were so blown away by the results that we did the analysis twice,” said Dr. Perler, professor of surgery and chief of vascular surgery at Johns Hopkins Medical Center in Baltimore.

The finding was supported by the results from another analysis, also reported in 2005, with data that came from more



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