

nificantly lower rate of postpartum hemorrhage when the oxytocics were given after delivery of the fetal head compared with after delivery of the placenta (OR = 0.60; 95% CI, 0.41 - 0.87). There was no significant difference in the incidence of manual removal of the placenta because of placental entrapment or a prolonged third stage of labor. Clinicians providing obstetrical care should consider administering oxytocin as soon as possible after delivery of the fetal head to most effectively reduce the risk of postpartum hemorrhage.

Alicia C. Dagli, MD
University of Virginia
Charlottesville
E-mail: avc2b@virginia.edu

REFERENCE

1. Soriano D, Dulitzki M, Schiff E, Barkai G, Mashlach S, Seidman DS. A prospective cohort study of oxytocin plus ergometrine compared with oxytocin alone for prevention of postpartum haemorrhage. *Br J Obstet Gynaecol* 1996; 103:1068-73.

■ RISK OF STROKE IN PATIENTS WITH CAROTID BRUITS

Schorr RI, Johnson KC, Wan JY, et al. The prognostic significance of asymptomatic carotid bruits in the elderly. *J Gen Intern Med* 1998; 13:86-90.

Clinical question Do asymptomatic patients with carotid bruits have an increased risk of stroke?

Background Population-based studies have established that carotid artery stenosis increases the risk of stroke, but the relationship between asymptomatic carotid bruits and risk of subsequent stroke remains unclear. This retrospective cohort study examined the risk of stroke in asymptomatic elderly patients with carotid bruits.

Population studied A cohort was assembled from the Systolic Hypertension in the Elderly Program (SHEP), a large randomized controlled trial. SHEP participants were older than 60 years of age, had isolated systolic hypertension, and were excluded if there was a history of stroke, symptomatic carotid bruit, atrial fibrillation, insulin or warfarin use, coronary artery bypass graft, recent MI, dementia, or residence in a nursing home. A total of 294 SHEP enrollees were excluded, resulting in a total of 4442 subjects. The average age was 71.5 years; 57.8% were female, 78.9% were white, 12% smoked, and 10% had diabetes. The population is thus relatively representative of the "well elderly"; their risk of stroke is somewhat greater than patients without isolated systolic hypertension.

Study design and validity This retrospective

cohort study reanalyzed data collected from the SHEP trial. The average follow-up was 4.5 years; Cox proportional hazards was used to adjust for a large number of potential confounders, including age, sex, race, blood pressure, lipids, ECG abnormalities, smoking, aspirin use, diabetes, and assignment to treatment or control group in the SHEP study.

While not ideal for the study of prognosis, this study design is common and relatively strong. A major strength is that data about clinical status, risk factors, and outcomes were collected carefully; another strength is the attention to many different confounding factors. The most significant weakness of the study is the relatively low frequency of strokes, which may limit the power of the study. Other potential weaknesses include the lack of validation of neck auscultation, the possibility of bias suggested by unequal distribution of patients with bruits in the treatment and control groups, and the lack of attention to treatments other than aspirin and antihypertensives that may alter the risk of stroke.

Outcomes measured Stroke as the primary outcome measured was identified through review of medical records and radiographic studies by an end-point adjudication committee. Mortality, functional status, and cost were not described.

Results A total of 284 patients had bruits at enrollment; they were more likely to be older, nonwhite, have higher systolic blood pressure and cholesterol, and more ECG abnormalities. They were also more likely to use aspirin and be randomized to placebo. Strokes developed in 21 (7.4%) of those with carotid bruits (event rate: 1.86/100 person-years), whereas 210 (5.0%) of those without carotid bruits developed stroke (event rate: 1.21/100 person-years). Adjusted for confounding, the relative risk of stroke in persons with carotid bruits was 1.29 (95% CI, 0.80 - 2.06). Subgroup analysis showed no effect of age or risk status.

Recommendations for clinical practice This study provides good evidence that bruits do not predict stroke in asymptomatic elderly patients with modestly elevated risk of stroke. Clinicians should be cautious in applying these results to patients younger than 60, patients with symptoms, or those with many risk factors for stroke.

Should auscultation of the neck be included in routine preventive care? The jury is still out. The burden of suffering from stroke is high. Auscultation is inexpensive and without side effects; once heard, the presence of a bruit is 63% to 76% sensitive and 61% to 76% specific for stenosis. Surgical treatment may be helpful in patients with high-grade lesions and symptoms, and other therapies, including aspirin and antihyperlipi-

demics, may play a valuable role. The effectiveness of screening is unproven, however. The quality of auscultation depends on the examiner, and this study suggests that it will be difficult to prove a benefit of screening in asymptomatic patients. It is likely that patients will be better served by focusing time and resources on reducing known and modifiable risk factors for stroke such as hypertension and cigarette smoking.

Andrea Mathias, MD, MPH

Warren Newton, MD, MPH

*University of North Carolina at Chapel Hill
North Carolina*

E-mail: ANewton355@aol.com

■ CALCIUM CHANNEL BLOCKERS AND CARDIOVASCULAR COMPLICATIONS IN HYPERTENSIVE DIABETICS

Estacio RO, et al. The effect of nisoldipine as compared with enalapril on cardiovascular outcomes in patients with non-insulin-dependent diabetes and hypertension. *New Eng J Med* 1998; 338:645-52.

Clinical question What is the risk of cardiovascular complications in hypertensive patients with type 2 diabetes mellitus who take a long-acting calcium channel blocker (CCB)?

Background Case-control studies have described an association between CCBs and an increased risk of cardiovascular events and mortality. There is also evidence that angiotensin-converting enzyme (ACE) inhibitors increase the survival rate after an acute myocardial infarction (MI), and may delay the progression of renal disease in diabetics. This study, a sub-analysis of the Appropriate Blood Pressure Control in Diabetes (ABCD) Trial, compared the incidence of cardiovascular complications in hypertensive patients with type 2 diabetes treated with either a CCB or an ACE inhibitor.

Population studied Subjects were patients aged 40 to 74 years who had type 2 diabetes, a diastolic blood pressure >80 mm Hg, and were taking no antihypertensive agents. Exclusion criteria included allergy to study medications, an absolute indication for use of one of the study drugs, recent MI, stroke, unstable angina, coronary artery bypass surgery, and renal insufficiency or dialysis.

Study design and validity This was a double-blind, randomized, controlled trial. Four hundred seventy patients were randomly assigned to: (1) intensive vs moderate blood pressure goals (diastolic blood pressure <75 mm Hg or diastolic blood pressure 80 to 89 mm Hg, respectively), and (2) nisoldipine or enalapril. If the

target blood pressure was not attained by the study medication, either metoprolol or hydrochlorothiazide was added. Patient baseline characteristics were similar except for a higher incidence of angina, a higher incidence of abnormal ankle-brachial index, and a lower HDL in the enalapril group. Follow-up was complete, and analysis followed the intention-to-treat principle. Within the hypertensive arm of the ABCD trial, a significant increase in cardiovascular events was noted in one group during study follow-up. The safety committee unblinded the study, analyzed the results, and recommended discontinuation of nisoldipine. This study reports only these results; evaluation in the normotensive group continues as part of the larger trial.

Outcomes measured The primary outcomes of this report were the incidence of cardiovascular events (sudden death, progressive heart failure, MI, fatal arrhythmias, stroke, ruptured aortic aneurysm, and pulmonary infarct) and mortality; both were secondary outcomes of the ABCD trial. The mean duration of follow-up was 5 years.

Results No significant difference was found in blood pressure control between the two groups. However, significantly more patients in the ACE inhibitor group compared with the CCB group required the addition of a second antihypertensive medication to reach the target blood pressure (42.1% vs 37.9% metoprolol, 50.6% vs 39.6% hydrochlorothiazide). No differences were noted between groups regarding glycosylated hemoglobin or lipid levels. Rates of medication discontinuation were similar in both groups.

Patients assigned to an ACE inhibitor suffered significantly fewer deaths because of cardiovascular disease (5 vs 10), fewer nonfatal MIs (5 vs 22), and fewer combined fatal and nonfatal MIs (5 vs 25) than those assigned to the CCB. This association was maintained whether moderate or intense blood pressure control was sought. Adjusting for potential confounders, including baseline differences, the CCB group was 7.0 times more likely to have a fatal or nonfatal MI (95% CI, 2.3-21.4). No difference was found between groups for stroke, progressive heart failure, or cardiovascular or all-cause mortality.

Recommendations for clinical practice This study clearly shows an increased risk of MIs for diabetic hypertensives receiving a long-acting CCB compared with those receiving an ACE inhibitor. The interpretation of these results, however, is less clear. These findings may result from a harmful effect of CCBs, a protective effect of ACE inhibitors, or a combination of the two. Another consideration is that more patients in the ACE inhibitor group required the addition of hydrochlorothiazide or a beta-blocker, both of