UT SOUTHWESTERN MEDICAL CENTER NEWS

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Minorities have poorer results, higher rates of inappropriate carotid-artery surgery to prevent stroke, UT Southwestern researcher reports

DALLAS – Aug. 25, 2009 – Minorities have poorer results and higher rates of unnecessary surgery from a common procedure used to remove plaque from inside the carotid artery, according to a UT Southwestern Medical Center doctor who is lead author of the study in the journal *Stroke*.

The multicenter study, available online and appearing in the July issue of the journal, found that higher rates of poor surgical outcomes for carotid endartectomy (CEA) – a procedure performed to prevent stroke – appeared to be due not only to elevated patient clinical risk in African-American and Hispanics, but also to the individual skill and experience of the doctor performing the operation.

"Identifying how various patient, physician and hospital-level factors may contribute to disparities has important implications for the design of clinical and health policy strategies for reducing them," said Dr. Ethan Halm, chief of the William T. and Gay F. Solomon Division of General Internal Medicine at UT Southwestern.

"To my knowledge this is the first study to examine the stepwise impact of patient, surgeon and hospital factors as a way of understanding racial/ethnic disparities in clinically confirmed outcomes of carotid artery surgery," he said.

Previous research has demonstrated that minority groups in the U.S. have higher rates of heart attack and stroke. For example, African-Americans have greater numbers and higher severity of strokes, accompanied by higher rates of recurrence or death within 30 days.

Yet Hispanics have not been well-studied as a subgroup, Dr. Halm said.

The researchers used data from the New York Carotid Artery Surgery (NYCAS) study to examine the medical outcomes of 9,093 Medicare patients who had undergone carotid endartectomy in New York state. Of the patients, 95.3 percent were Caucasian, 2.5 percent were African-American and 2.2 percent were Hispanic.

They found that the minorities had much worse clinical outcomes. In the 30 days following surgery, 9.5 percent of the Hispanic patients and 6.9 percent of the African-Americans had died or suffered a stroke due to the procedure, compared with 3.8 percent of Caucasian patients. One reason minorities had higher complications rates was that they had severe neurological disease and more serious health conditions like heart disease and diabetes.

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However, minorities were more likely to be cared for by less-experienced surgeons and hospitals. Adjusting for these patient and provider factors explained the worse results in African-Americans, but did not explain the poorer outcomes in Hispanics.

Rates of unnecessary surgery were also higher in minorities. For Hispanics, CEA was inappropriate in 17.6 percent of the cases; for African-Americans, 13 percent; and for Caucasians, 7.9 percent. The disparity in rates of unnecessary surgery was largely due to the higher burden of serious health conditions among minorities, which put them at much higher short-term risk of complications. If the short-term risk of carotid surgery is too high, the procedure is considered inappropriate.

"These results show we have the worst of all worlds," Dr. Halm said. "CEA is, paradoxically, both overused and underused in minorities and with worse results. More work is needed to help better understand the multiple factors that influence patient selection and surgical referral patterns. Developing evidence-based decision aids to help physicians and patients more accurately weigh the potential risks and benefits of CEA is one strategy we are pursuing to help improve this situation."

The NYCAS study was supported by the Agency for Healthcare Research and Quality, Centers for Medicare & Medicaid Services, the Robert Wood Johnson Foundation and the National Institute of Neurological Disorders and Stroke.

Scientists from Mt. Sinai School of Medicine and New York University School of Medicine also contributed to the research in *Stroke*.

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