UT SOUTHWESTERN MEDICAL CENTER NEWS

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Study finds incidence of hypertension reduced with early intervention

DALLAS – March 15, 2006 – Treating pre-hypertension with medication and lifestyle modifications reduces the risk of patients progressing to hypertension, a new study involving researchers at UT Southwestern Medical Center has concluded.

The findings, available online and appearing in an upcoming issue of *The New England Journal of Medicine,* are the result of a four-year study of more than 800 patients who had a condition known as pre-hypertension. A blood pressure measurement between 120 and 139 millimeters of mercury (mm Hg) systolic and 80 to 89 mm Hg diastolic indicates pre-hypertension.

"The recommended guidelines currently list lifestyle modifications for treatment of pre-hypertension," said Dr. Shawna Nesbitt, associate professor of internal medicine at UT Southwestern and an author on the study. "But the long-term maintenance of a lifestyle change is dismal. Patients typically don't stick to it."

Present guidelines recommend that pre-hypertension be managed with changes in the patient's lifestyle through weight loss, salt restriction, exercise and dietary modification. Despite intense efforts to keep patients from developing hypertension, an increasing number of people are diagnosed each year. Hypertension is one of the leading causes of other cardiovascular ailments, including heart disease and stroke.

Dr. Nesbitt collaborated with researchers at several institutions to find out if treatment with angiotensin-receptor blockers, or ARBs, could prevent the development of hypertension. This is the first human study involving treatment of prehypertension with an ARB.

"We chose to administer a low dose of the ARB medication candesartan cilexetil because it has qualities that suggest it changes characteristics of the blood vessel – an effect that may be maintained beyond the period of treatment," Dr. Nesbitt said. "As hypertension develops, the walls of the blood vessels actually get thicker, setting the stage for high blood pressure to propagate. This medication and others like it seem to decrease that thickness and improve the function of the blood vessels."

In the study, patients between the ages of 30 and 65 with blood pressures between 130 and

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139 mm Hg systolic and 85 to 89 mm Hg diastolic were treated over a four-year period with either a placebo or with ARB medications.

"In a prior study, it was shown that over four years, if left untreated, 40 percent of people with prehypertension become hypertensive," Dr. Nesbitt said.

Half of the participants were given candesartan cilexetil for two years and then were removed from the medication for two years; the other half of the group was untreated for the four years. Even up to two years after treatment was stopped, the candesartan-treated pre-hypertensive patients had a 15.8 percent lower risk of developing hypertension compared with untreated pre-hypertensive patients. Both groups were advised to modify their diet and exercise habits.

"I think this is the tip of the iceberg in the further study of new treatment protocols for pre-hypertension" Dr. Nesbitt said. "We've typically waited until people have hypertension before we treated them, and it's really hard to stave off the disease's progression when you treat it later in its development. This is an opportunity for us to investigate early treatments and to see if we can prevent patients from having to be on life-long therapy for hypertension."

The Trial of Preventing Hypertension, or TROPHY, is a four-year, multicenter study, which was investigator-initiated and financially supported by pharmaceutical company AstraZeneca LP, manufacturer of the candesartan cilexetil drug Atacand.

Dr. Nesbitt is an executive committee member of the TROPHY study. Other authors – also members of the executive committee – are from the University of Michigan Medical School, the Medical University of South Carolina, the State University of New York Downstate Medical Center, Rush University Medical Center, Hennepin County Medical Center in Minneapolis, St. Luke's-Roosevelt Hospital Center, and the University of Alabama at Birmingham.

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