ACE Inhibitors May Protect Against Mental Decline

BY TIMOTHY F. KIRN
Sacramento Bureau

SEATTLE — Angiotensin-converting enzyme inhibitors that cross the blood-brain barrier slow mental decline by about 50% relative to the decline seen in patients on other antihypertensives, according to an observational study of 1,074 hypertensive patients followed for a median of 6 years.

"If there is an indication for an ACE inhibitor, we might as well use one that crosses the blood-brain barrier," Dr. Kaycee M. Sink, principal investigator, said at the annual meeting of the American Geriatrics Society.

Hypertension itself is a risk factor for dementia, so it is important to know if an antihypertensive treatment has the ability to cut that risk, said Dr. Sink of the division of geriatrics at Wake Forest University, Winston-Salem, N.C.

Previous trials of treatment have had mixed results. But in animal studies, the ACE inhibitors that cross the blood-brain barrier have been shown to halt cognitive decline at doses below what would be used to control blood pressure. Those studies were the basis for the investigation, Dr. Sink said.

Her group looked at patients enrolled in the multicenter Cardiovascular Health Study, selecting out those patients who had hypertension and took an antihypertensive, and those who did not have dementia at baseline. The mean age of the patients was 78 years.

The aim was to look at the incidence of dementia. There were 158 patients diagnosed with dementia over the average 6 years of follow-up. But the only effect by type of antihypertensive that the patient was exposed to was a slightly higher risk in those who took an ACE inhibitor that did not cross the blood-brain barrier, with about an 18% higher risk than that seen in the patients treated with other antihypertensives.

However, when the investigators looked at the patients' scores on the Modified Mini-Mental State Exam, they did find a difference. The group of patients on an antihypertensive other than an ACE inhibitor had a mean decline in exam scores of 0.64 points per year. Those on an ACE inhibitor had a mean decline of 0.38 points per year.

But the patients on an ACE inhibitor that crossed the blood-brain barrier accounted for almost all of that difference in decline. They had a mean decline of 0.32 points per year.

The ACE inhibitors that do not cross the blood-brain barrier are enalapril, benazepril, moexipril, and quinapril. The others are "centrally active," Dr. Sink said.

It is thought that the centrally active ACE inhibitors might protect against the development of dementia and mental decline by decreasing oxidative stress and preventing inflammation in the brain, she noted.

Mean Annual Decline of Scores on the Modified Mini-Mental State Exam

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Article Outline
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