

More evidence links diabetes to Alzheimer's risk

March 16 2009, By LAURAN NEERGAARD , AP Medical Writer

(AP) -- You've heard that diabetes hurts your heart, your eyes, your kidneys. New research indicates a more ominous link: That diabetes increases the risk of getting Alzheimer's disease and may speed dementia once it strikes.

Doctors long suspected [diabetes](#) damaged blood vessels that supply the brain. It now seems even more insidious, that the damage may start before someone is diagnosed with full-blown diabetes, back when the body is gradually losing its ability to regulate [blood sugar](#).

In fact, the lines are blurring between what specialists call "[vascular dementia](#)" and scarier classic Alzheimer's disease. Whatever it's labeled, there's reason enough to safeguard your brain by fighting diabetes and heart-related risks.

"Right now we can't do much about the Alzheimer's disease pathology," those sticky plaques that clog patients' brains, says Dr. Yaakov Stern, an Alzheimer's specialist at Columbia University Medical Center. But, "if you could control these vascular conditions, you might slow the course of the disease."

The link has staggering societal implications: More than 5 million Americans have Alzheimer's, and cases already are projected to skyrocket in the next two decades as the population ages. The question is how much the simultaneous obesity-fueled epidemic of [Type 2 diabetes](#) may worsen that toll.

There are about 18 million Type 2 diabetics who are considered to have at least two to three times a non-diabetic's risk of developing Alzheimer's. Still, Type 2 diabetes often leads to heart disease and other conditions that kill before Alzheimer's typically strikes, in the 70s.

Don't panic if you're diabetic, stresses Dr. Ralph Nixon of New York University, vice chairman of the Alzheimer's Association's scientific advisory council. Genetics still are the prime risk factor for [dementia](#).

"It by no means means that you're going to develop Alzheimer's disease, and certainly many people with Alzheimer's don't have diabetes," he cautions.

But the latest research strengthens the link, and has scientists asking if diabetes and its related "metabolic syndrome" increase risk solely by spurring brain changes that underlie Alzheimer's - or if they add an extra layer of injury to an already struggling brain, what Nixon calls "essentially a two-hit situation."

Among the findings:

- Brain functioning subtly slows as Type 2 diabetics' blood-sugar rises, well before people have any obvious memory problems.

In a major national study, doctors gave a battery of cognitive tests to nearly 3,000 diabetics. Every 1 percent increase in their A1C score - an average of glucose control over a few months - meant small but meaningful drops in memory, the ability to multitask, and other cognitive tasks, Wake Forest University scientists wrote last month in the journal *Diabetes Care*.

The government-funded study is testing whether better treatment to lower those A1C scores in turn improves brain function.

-At Columbia, Stern is co-directing a powerful study: Hundreds of aging New York City residents agreed to regular testing while they were still healthy, allowing scientists to catch the earliest signs of dementia. Stern tracked yearly changes in 156 who developed Alzheimer's, and found that those who had a history of diabetes and high cholesterol worsened faster, he reports this month in a special issue of Archives of Neurology dedicated to the link.

-Type 2 diabetes occurs as a result of insulin resistance, as the body gradually loses sensitivity to this hormone that's essential for turning blood sugar into energy. A similar effect in the brain helps explain the dementia link, Dr. Suzanne Craft of the Veterans Affairs Puget Sound Health Care System concludes in a research review also published in that journal. Insulin influences memory in a variety of ways, and an insulin-resistant body in turn affects brain cells' insulin-related activity.

Other factors - such as brain inflammation and cell-damaging oxidative stress - may play a role, too. But clearly more affected is a silent dysfunction of glucose control, not something that suddenly begins after diabetes is diagnosed.

"You want to think of it more as a continuum than just whether or not you have diabetes," Stern says.

While scientists sort out exactly what's going on, the research does point to some common-sense protections: If you have diabetes, closely follow your doctor's advice for controlling it. Try to lower high cholesterol and blood pressure that can harm the brain's blood supply and exacerbate memory problems.

And if you're still healthy, Nixon advises "hedging your bets against Alzheimer's" with the same steps that help prevent both diabetes and heart disease - a good diet and plenty of exercise.

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