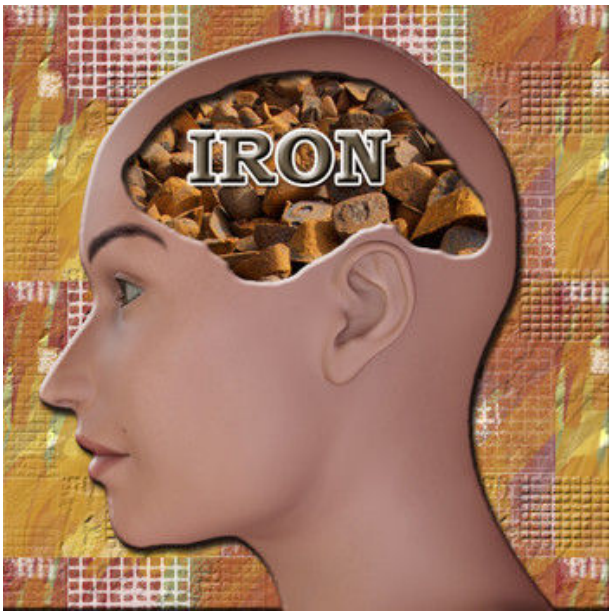
RealHealth Clinics

HEALTH INFORMATION SHEET

Iron at Alzheimer's Core?

UCLA Study Implicates Iron

"Findings challenge conventional thinking about possible causes of disorder"



Most researchers believe the disease is caused by one of two proteins, one called tau, the other beta-amyloid. As we age, most scientists say, these proteins either disrupt signaling between neurons or simply kill them.

Now, a new UCLA study suggests a third possible cause: iron accumulation.

They compared the hippocampus, known to be damaged early in the disease, and the thalamus, an area that is not affected until the late stages. They found that iron is increased in the hippocampus and is associated with tissue damage in that area. But increased iron was not found in the thalamus.

Mining Iron

Medical researchers decided to take a new approach in the hunt for the cause(s) of Alzheimer's disease - mining Iron in the human brain.

Scientists at UCLA used an MRI technique that can measure the amount of brain iron in ferritin, a protein that stores iron, in 31 patients with Alzheimer's and 68 healthy control subjects.

"We found that the amount of iron is increased in the hippocampus and is associated with tissue damage in patients with Alzheimer's but not in the healthy older individuals — or in the thalamus. So the results suggest that iron accumulation may indeed contribute to the cause of Alzheimer's disease."

UCLA Research - Iron at the Beginning of the AD Cascade

While most Alzheimer's researchers focus on tau or beta-amyloid that results in plaques associated with the disease, UCLA researchers have argued that the breakdown begins much further "upstream." The destruction of myelin, the fatty tissue that coats nerve fibers in the brain disrupts communication between neurons and promotes plaques. These amyloid plaques in turn destroy more myelin, disrupting brain signaling and leading to cell death and clinical Alzheimer's. Although iron is essential for cell function, too much of it can promote oxidative damage, to which the brain is especially vulnerable and likely causes the initial destruction of myelin.