

Clinical Update

High Homocysteine Levels May Hurt Vision

High homocysteine levels already linked to heart, brain trouble, experts say

High levels of an amino acid called homocysteine could harm the eyes, say researchers at the Medical College of Georgia.

They suspect that homocysteine -- already believed to contribute to heart attack, stroke and dementia -- likely helps cause retinal damage and vision loss.

Preliminary evidence suggests that elevated homocysteine levels damage the extensive blood vessel and neuronal network of the retina, said cell biologist Dr. Sylvia Smith.

With a \$1.8 million grant from the U.S. National Institutes of Health, Smith hopes to learn more about how elevated homocysteine levels may affect the retina, its structure, functioning, and ability to withstand stress.

The retina, located at the back of the eye, receives light and transforms it into neural impulses that go to the brain.

Homocysteine levels increase when there's a decline in folic acid (folate) levels, Smith noted. This is a problem for many Americans, because they don't eat enough folate-rich fruits, vegetables and grains.

Folate and vitamin B12 convert homocysteine to methionine, an amino acid that plays a vital role in protein synthesis. When this conversion fails to occur, elevated homocysteine levels interfere with the folding and structure of collagen, a component of bone, tissue and blood vessel walls, the team explained.

