

LE Magazine May 2001

AS WE SEE IT

The "Silent" Stroke Epidemic

Of all the diseases that affect aging humans, stroke is the most feared. Most people believe a stroke can either kill suddenly or induce a state of paralysis requiring institutional care.

A surprising new study reveals that most strokes cause no obvious symptoms, although over time these "silent" strokes lead to memory loss, neurologic disorders and more strokes. According to this new study, eleven million Americans have these "silent" strokes annually and by the time people reach their 70's, one in three suffers a silent stroke every year.(1)

This dismal report describing the "silent" stroke epidemic was presented at a meeting of the American Stroke Association held February 14-16, 2001. The good news is that other presentations made at this same meeting show that the program Life Extension members follow to stay healthy may dramatically reduce their risk of ever having a stroke.

There were four papers presented at this meeting that correlate increasing levels of homocysteine with stroke risk. One of these presentations was a meta-analysis of 15 published studies and showed that mild-to-moderate elevations in homocysteine was independently associated with an astounding 86% increase in the risk of stroke.(2) The use of extra vitamins B6, B12 and folic acid is one way of lowering homocysteine levels. Currently underway is a major study called VISP (Vitamin Intervention for Stroke Prevention) to see if new strokes can be warded off in those who have already suffered from strokes with extra doses of folic acid and vitamins B6 and B12.

We advised Life Extension members way back in 1981 to take high doses of folic acid and B-vitamins to lower homocysteine levels. Based on independent research we conducted two years ago showing that standard supplements do not always adequately lower homocysteine, Foundation members are now taking higher doses of the B-vitamins along with trimethylglycine (TMG) to optimally suppress homocysteine. (3)



William Faloon



What is a "STROKE"?

Stroke is the third leading cause of death in developed countries. About 25% of sufferers die as a result of the stroke or its complications and almost 50%

At this American Stroke Association meeting, an additional four papers were presented indicating that high levels of fibrinogen are also a significant risk factor for developing the most common form of stroke.(4-7) In 1996, we advised our members to have their blood tested for fibrinogen. We recommended that if fibrinogen levels were in excess of 300 mg per deciliter of blood, that steps be taken to lower it to a safe range. Some of the nutrients that can lower fibrinogen include at least 2000 mg a day of vitamin C, 1000 mg of flush-free niacin, 2800 mg of EPA/DHA from fish oil, and 2000 mg a day of bromelain. To protect against fibrinogen inducing an arterial blood clot that can cause an ischemic stroke, we suggest low-dose aspirin, vitamin E, garlic, along with ginkgo and green tea extracts.

One of the most talked about ways of determining who will have a stroke is to measure levels of C-reactive protein in the blood. One presentation showed that elevated C-reactive protein posed a two to three times greater risk of stroke.² Another presentation showed that in those who have a major stroke, higher levels of C-reactive protein had a much greater likelihood of having another vascular event, such as a heart attack or stroke, or dying within the following year. Stroke patients with the highest C-reactive protein levels had nearly a 2.4 times greater chance of experiencing death or a vascular event within the next year compared to patients with the lowest levels, the researchers reported.(11)

High levels of C-reactive protein indicate a potentially destructive inflammatory autoimmune condition that could predispose a person to a host of degenerative diseases. C-reactive protein can be suppressed by ibuprofen, aspirin or vitamin E.(12-15) Some of the pro-inflammatory immune cytokines that cause elevated C-reactive protein include interleukin-6, interleukin 1(b) and tumor necrosis factor alpha. Supplements such as DHEA, vitamin K and nettle leaf extract can help suppress these dangerous inflammatory cytokines that can cause C-reactive protein elevation.(16-18)

As a marker for inflammation, the C-reactive protein test is gaining ground among mainstream medical experts as a much-needed addition to improve risk screening for cardiovascular disease. Since half of the people who have heart attacks do not have high cholesterol-triglyceride levels, a new report recommends the addition of C-reactive protein test in order to improve the ability to detect "absolute coronary risk".(19)

One of the strengths of C-reactive protein testing is its ability to detect at-risk patients with normal cholesterol levels. The Physician's Health Study found that apparently healthy men with the highest C-reactive protein levels had twice the risk of future stroke, three times the risk of future heart attack, and four times the risk of future peripheral vascular disease.(20) The Women's Health Study reported that C-reactive protein was the single strongest predictor of future vascular risk.(21)

What all this means to you

For the last 50 years, doctors have concentrated on controlling blood pressure as the primary method of preventing stroke. While guarding against even borderline hypertension is critical in reducing stroke risk, there are factors that can be tested in the blood to further determine stroke risk. Everyone over age 40 should have their blood tested to make sure their homocysteine, fibrinogen, C-reactive protein, LDL-cholesterol, etc. are in the safe range.

If any of these risk factors for stroke are elevated, they can be safely lowered with therapies that are proven to work. Since these same risk factors also predispose one to heart attack and other diseases, anyone concerned with living a long and healthy life should keep them in the optimal ranges. (See chart below.)

Based on the sheer number of people suffering neurologic deficits caused by "silent" strokes, protecting the brain against the effects of reduced blood flow is now even more important for aging people to consider. A study published in the November 2000 issue of Brain Research Bulletin examined rats that were subjected to 45 minutes of reduced blood flow (ischemia) to the brain. This ischemia insult resulted in massive disordering of cell membranes and decreases in cerebral enzyme levels. Ischemic injury caused 67% of the animals to die. In a group of rats pre-treated with carnosine, only 30% died in response to ischemic injury and a significant protective effect was shown to brain cell membranes and enzyme activity levels. The conclusion of the scientists conducting the study was that "carnosine protects the brain against oxidative injury and thereby increases the survival of the animals."(22)

have moderate to severe health impairments and long-term disabilities. Only 26% recover most or all normal health and function.

The majority of strokes occur when a blood clot blocks the flow of oxygenated blood to a portion of the brain. This type of stroke, caused by a blood clot blocking a blood vessel, is called "ischemic stroke." An ischemic stroke can result from a blood clot that forms inside the artery of the brain (thrombotic stroke) or by a clot formed somewhere else in the body that travels to the brain (embolic stroke).

In the case of ischemic stroke, abnormal blood clotting blocks large or small arteries in the brain, cutting off blood flow. Ischemic strokes account for 83% of all strokes, and occur as either an embolic or thrombotic stroke. The other 17% of strokes are called hemorrhagic stroke and these occur when a blood vessel in the brain ruptures.

Thrombotic stroke represents 52% of all ischemic strokes. Thrombotic stroke is caused as the result of unhealthy blood vessels becoming clogged with a buildup of fatty deposits, calcium or blood clotting factors such as fibrinogen, homocysteine and LDL-cholesterol. We generally refer to this as atherosclerosis disease. More recent information indicates that a chronic inflammatory process is also a cause of the arterial damage that leads to stroke. Elevated C-reactive protein is an indicator of underlying inflammatory disease.(8-10)

Most Life Extension members are supplementing with carnosine because of its multi-modal effects in protecting against certain types of age-associated cell damage. In extrapolating from the study showing that carnosine protects rat brains against the effects of ischemia, if a stroke were to occur in someone taking carnosine, the risk of acute death might be reduced by more than 50%, while the odds of permanent neuronal impairment that could cause paralysis may also be lowered.

All of this new research points to the fact that the most common forms of mental impairment, disability and death in the aging population (vascular dementia and stroke) are potentially avoidable. While conventional doctors focus solely on blood pressure control, they are failing to recommend important blood tests, drugs and supplements to reduce the stroke epidemic that continues to plague the aging human population. HMO's and insurance companies often refuse to pay for these important blood tests, even though overall medical costs could be significantly reduced if common diseases like stroke were prevented.

We predict that in the near future, health insurance companies will make a complete turnaround and mandate that these inexpensive blood tests be performed on all of their clients. We foresee insurance companies also requiring that their clients take steps to correct these stroke and heart attack risk factors as a condition for continuing health insurance coverage.

Life Extension members should feel secure that the program they have been following for the last 21 years appears to confer a considerable degree of protection against the underlying risk factors that can result in a stroke.

For longer life,



William Faloon

Testing your blood to avoid cardiovascular disease

Don't let complacent doctors put you at risk for heart disease and stroke. The following chart shows the most common blood tests that can help reveal underlying cardiovascular disease risk factors.

As can be seen on the chart below, blood test results that conventional doctors accept as being "normal" can be lethal to you. In other words, what the "Standard smalltext Range" allows is not always a practical indicator for where your "optimal" level should be.

In many cases, a "Standard smalltext Range" reflects what is expected to be seen in the average population. Since cardiovascular disease remains the number one killer of Americans, you don't ever want to be part of the "average" range when it comes to cardiovascular disease risk factors.

By keeping your blood levels in the "Optimal Range," rather than the average "Standard smalltext Range," you take advantage of the increasing volume of evidence showing that most heart attacks and strokes are preventable.

As you can see, the "Standard smalltext Range" often dangerously differs from what the published research indicates is protective against cardiovascular disease.

Blood Test	What The "Standard smalltext Range" Allows	The "Optimal" Level Where YOU Want To Be
Fibrinogen	Up to 460 mg/dL	Under 300 mg/dL
C-reactive protien	Up to 4.9 mg/L	Under 2 mg/L Some studies indicate C-reactive protien levels should be below 1.3 mg/L(23,24)
Homocysteine	Up to 15 micro mol/L	Under 7 micro mol/L
Glucose	Up to 109 mg/dL	Under 100 mg/dL
Iron	Up to 180 mg/dL	Under 100 mcg/dL
Cholesterol	Up to 199 mg/dL	Between 180-220 mg/dL

LDL cholesterol	Up to 129 mg/dL	Under 100 mg/dL
HDL cholesterol	No lower than 35 mg/dL	Over 50 mg/dL
Triglycerides	Up to 199 mg/dL	Under 100 mg/dL
DHEA	Males: No lower than 80 mcg/dL	Between 400-560 mcg/dL
	Females: No lower than 35 mcg/dL	Between 350-430 mcg/dL

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For additional information see The American Stroke Association website: <http://www.strokeassociation.org>

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