

## Understanding Vascular Dementia

### Did you know?

Every heartbeat pumps 20 to 25 percent of your blood to your brain, which has 86 billion neurons and uses a whopping 20 percent of all the oxygen and nutrients your blood carries.

Vascular dementia is considered the second most common cause of dementia after Alzheimer's disease, accounting for 20 to 30 percent of cases.



alzheimer's association®

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Inadequate blood flow can damage and eventually kill cells anywhere in the body. The brain has one of the body's richest networks of blood vessels and is especially vulnerable.

In vascular dementia, changes in thinking skills sometimes occur suddenly following strokes that block major brain blood vessels. Thinking problems may also begin as mild changes that worsen gradually as a result of multiple minor strokes or other conditions that affect smaller blood vessels, leading to cumulative damage. A growing number of experts prefer the term "vascular cognitive impairment (VCI)" to "vascular dementia" because they feel it better expresses the concept that vascular thinking changes can range from mild to severe.

Vascular brain changes often coexist with changes linked to other types of dementia, including Alzheimer's disease and dementia with Lewy bodies.

### Symptoms

Symptoms can vary widely, depending on the severity of the blood vessel damage and the part of the brain affected. Memory loss may or may not be a significant symptom depending on the specific brain areas where blood flow is reduced.

Vascular dementia symptoms may be most obvious when they happen soon after a major stroke. Sudden post-stroke changes in thinking and perception may include:

- ◆ Confusion
- ◆ Disorientation
- ◆ Trouble speaking or understanding speech
- ◆ Vision loss

Vascular changes that start in brain areas that play a

key role in storing and retrieving information may cause memory loss that looks very much like Alzheimer's disease.

These changes may happen at the same time as more familiar physical stroke symptoms, such as a sudden headache, difficulty walking, or numbness or paralysis on one side of the face or the body.

Multiple small strokes or other conditions that affect blood vessels and nerve fibers deep inside the brain may cause more gradual thinking changes as damage accumulates. Common early signs of widespread small vessel disease include: impaired planning and judgment, uncontrolled laughing and crying, declining ability to pay attention, impaired function in social situations and difficulty finding the right words.

### Diagnosis

Because vascular cognitive impairment may often go unrecognized, many experts recommend professional screening with brief tests to assess memory, thinking and reasoning for everyone considered to be at high risk for this disorder. Individuals at highest risk include those who have had a stroke or a transient ischemic attack (TIA, also known as a "ministroke"). Additional high-risk groups include those with high blood pressure, high cholesterol, or other risk factors for heart or blood vessel disease.

Professional screening for depression is also recommended for high-risk groups. Depression commonly

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## Tips

Of all the progressive dementias, Vascular Dementia is the most likely to be helped by life style changes.

If possible, include:

- ◆ Healthier diet, rich in vegetables and low in red and processed meats
- ◆ Quit smoking
- ◆ Exercise daily
- ◆ Reduce alcohol consumption
- ◆ Reduce stress
- ◆ Drink lots of water
- ◆ Sleep well
- ◆ Work with doctors to control hypertension and cholesterol levels

## Tools

- ◆ There are many devices on the market that can be used to find missing or misplaced items, a common problem for most people with dementia. Key finders can be attached to key rings or wallets, providing an easy method to retrieve them if missing. Try Zapals (at \$16.95) or Tile (4 at \$17.50). Both available on the web.

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coexists with brain vascular disease and can contribute to cognitive symptoms.

If brief screening tests suggest changes in thinking or reasoning, a more detailed assessment is needed. Core elements of a workup for vascular dementia typically include:

- ◆ A thorough medical history, including family history of dementia
- ◆ Evaluation of independent function and daily activities
- ◆ Input from a family member or trusted friend
- ◆ In-office neurological examination assessing function of nerves and reflexes, movement, coordination, balance and senses
- Laboratory tests including blood tests and brain imaging

According to a 2011 scientific statement issued by the American Heart Association (AHA) and the American Stroke Association (ASA), and endorsed by the Alzheimer's Association and the American Academy of Neurology (AAN), the following three criteria suggest the greatest likelihood that mild cognitive impairment (MCI) or dementia is caused by vascular changes:

1. The diagnosis of dementia or mild cognitive impairment is confirmed by neurocognitive testing, which involves several hours of written or computerized tests that provide detailed evaluation of specific thinking skills such as judgment, planning, problem-solving, reasoning and memory
2. There is brain imaging evidence, usually with magnetic resonance imaging (MRI), showing evidence of either:
  - ◆ A recent stroke, or
  - ◆ Other brain blood vessel changes whose severity and pattern of affected tissue are consistent with the types of impairment documented in neurocognitive testing.
3. There is no evidence that factors other than vascular changes are contributing to cognitive decline.

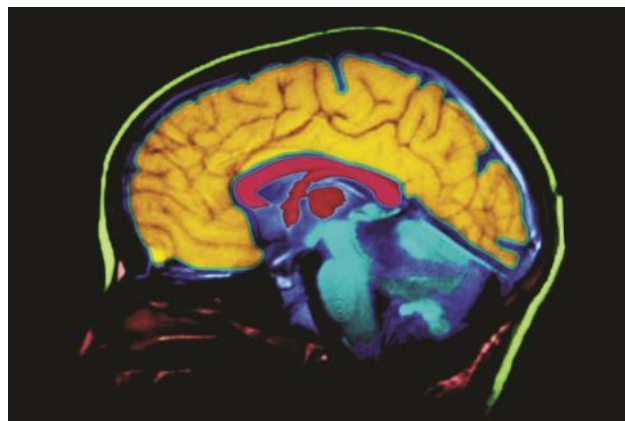
The guidelines also discuss cases where the diagnosis may be less clear-cut, such as the common situation where vascular changes coexist with brain changes associated with other types of dementia.

As with Alzheimer's disease, advancing age is a major risk factor for vascular cognitive impairment or dementia.

Additional risk factors are the same ones that increase the risk of heart problems, stroke and other diseases that affect blood vessels. Many of these vascular factors also increase the risk of developing

Alzheimer's. The following strategies may reduce your risk of diseases that affect your heart and blood vessels — and also may help protect your brain:

- ◆ Don't smoke
- ◆ Keep your blood pressure, cholesterol and blood sugar within recommended limits
- ◆ Eat a healthy, balanced diet
- ◆ Exercise
- ◆ Maintain a healthy weight
- ◆ Limit alcohol consumption



## Treatment and outcomes

The U.S. Food and Drug Administration (FDA) has not approved any drugs specifically to treat symptoms of vascular dementia, but there is some clinical trial evidence that certain drugs approved to treat Alzheimer's may also offer a modest benefit in people diagnosed with vascular dementia.

Controlling risk factors that may increase the likelihood of further damage to the brain's blood vessels is an important treatment strategy. **There's substantial evidence that treatment of risk factors may improve outcomes and help postpone or prevent further decline.**

Individuals should work with their physicians to develop the best treatment plan for their symptoms and circumstances.

Like other types of dementia, vascular dementia shortens one's lifespan. Some data suggest that those who develop dementia following a stroke survive three years, on average. As with other stroke symptoms, cognitive deficits sometimes improve during recovery and rehabilitation. That's because after the acute phase of a stroke the brain generates new blood vessels and undamaged brain cells take on roles previously performed by brain cells damaged during the stroke.