CONDITION

Vascular dementia

Vascular dementia is a decline in thinking skills caused by reduced blood flow or blood vessel damage in the brain.

WHAT IT IS
Dementia caused by damaged brain blood vessels

BODY SYSTEM
Brain and nervous system

MAIN SYMPTOMS
Slowed thinking, planning problems, poor attention, memory loss

WHAT CAUSES IT
Strokes or long-term damage to small brain blood vessels

HOW IT IS DIAGNOSED
Clinical assessment with CT or MRI brain imaging

MAIN TREATMENT
Vascular risk control, rehabilitation, and practical support

CAN IT BE CURED?
No - existing brain damage is irreversible

IS IT AN EMERGENCY?
Sometimes - sudden symptoms may mean stroke

LONG-TERM OUTLOOK
Usually progressive, sometimes with stable periods between declines

Overview

Vascular dementia is a decline in thinking abilities caused by problems with blood flow in the brain. It may follow a major stroke, several smaller strokes, or gradual damage to the brain's smallest blood vessels.

Dementia means that changes in memory, reasoning, language, or other mental skills are affecting everyday independence. Mild changes that do not interfere greatly with daily life may instead be described as vascular cognitive impairment.

Vascular dementia can look different from person to person because symptoms depend on which parts of the brain are damaged. Problems with attention, planning, decision-making, and speed of thought are often more noticeable than memory loss at first.

The condition matters because the brain damage cannot usually be reversed. However, treatment can support everyday function and address blood vessel problems that could lead to further strokes or damage.

Some people have vascular dementia together with Alzheimer's disease. This is called mixed dementia.

Symptoms

Symptoms may appear suddenly after a stroke or build gradually over months or years. There may be periods when abilities seem stable, followed by a noticeable decline. This is sometimes called a stepwise pattern. Other people experience a slow, steady change.

Common thinking and memory symptoms include:

Changes outside thinking and memory are also common. These may include walking more slowly, becoming unsteady, falling, or having weakness on one side after a stroke. Some people develop urgency or loss of bladder control.

Mood and behaviour can change. A person may become less interested in activities, more anxious, irritable, tearful, or emotionally unpredictable. Depression is common after a stroke and can make thinking problems appear worse.

Symptoms that begin suddenly, particularly weakness, facial drooping, speech difficulty, or abrupt confusion, may be signs of a new stroke rather than the usual course of dementia.

- Slower thinking or difficulty following a conversation
- Problems planning, organising, or completing familiar tasks
- Poor concentration or becoming easily distracted
- Difficulty making decisions or solving problems
- Memory loss, especially as the condition progresses
- Trouble finding words or understanding information
- Confusion about time, places, or sequences of events

Causes and risk factors

Brain cells need a constant supply of oxygen and nutrients from the blood. Vascular dementia develops when damaged or blocked blood vessels reduce that supply and injure brain tissue.

Possible patterns of damage include:

The chance of vascular dementia rises with age and with conditions that damage blood vessels. Important risk factors include high blood pressure, diabetes, high cholesterol, smoking, atrial fibrillation, previous stroke, and heart disease. Atrial fibrillation is an irregular heartbeat that can allow blood clots to form and travel to the brain.

Physical inactivity, excess body weight, and heavy alcohol use may contribute by increasing cardiovascular risk. Not everyone with these risk factors develops dementia, and someone can develop vascular dementia without having every known risk factor.

Vascular dementia itself is not usually inherited directly. Rare inherited conditions, such as CADASIL, can damage small brain blood vessels and cause strokes or cognitive problems at a younger age. A strong family history of unusually early strokes may lead to specialist assessment.

- A major stroke affecting an area important for thinking
- Several smaller strokes that have a combined effect
- Small-vessel disease affecting blood vessels deep within the brain
- A stroke in one particularly important area, sometimes called a strategic infarct
- Reduced blood flow caused by severe circulation problems

Diagnosis

There is no single test that proves vascular dementia. Diagnosis is based on the pattern of symptoms, their effect on everyday life, evidence of blood vessel damage in the brain, and the exclusion of other explanations.

An assessment usually includes a discussion about when changes began and how they affect tasks such as managing money, taking medicines, cooking, travelling, or personal care. With permission, information from someone who knows you well can help show how abilities have changed.

Short cognitive tests assess skills such as attention, memory, language, reasoning, and spatial awareness. A low score does not by itself confirm dementia. Education, language, hearing, mood, tiredness, and physical illness can all affect results.

Blood tests may look for other causes of cognitive symptoms, such as thyroid problems, vitamin deficiencies, infection, or disturbances in kidney or liver function. Medicines are also reviewed because some can worsen confusion.

A CT or MRI brain scan is usually used to look for strokes, small-vessel damage, bleeding, tumours, or other structural problems. MRI gives more detail about many types of vascular

damage, but it is not suitable or available for everyone.

Specialist assessment may be needed when the diagnosis is uncertain, symptoms begin at a younger age, or more than one type of dementia is suspected.

Treatment and management

There is no treatment that repairs the brain damage already caused by vascular dementia. Management focuses on reducing the chance of further vascular injury, supporting abilities, and treating symptoms that affect quality of life.

Blood pressure, diabetes, cholesterol, heart rhythm problems, and other cardiovascular conditions should be reviewed. Treatment may include medicines and lifestyle changes appropriate to the underlying condition. Antiplatelet or anticoagulant medicines, which reduce blood clot formation, are used only when there is another medical reason, such as certain strokes or atrial fibrillation. They are not treatments for dementia itself.

Medicines used for Alzheimer's disease, including cholinesterase inhibitors and memantine, are not routinely offered for vascular dementia alone in UK guidance. They may be considered when Alzheimer's disease, dementia with Lewy bodies, or Parkinson's disease dementia is also suspected.

Practical support can make daily life safer and more manageable. Occupational therapy can suggest routines, reminders, equipment, and home changes. Physiotherapy may help with strength, balance, and walking after a stroke. Speech and language therapy can support communication and assess swallowing problems.

Regular activity, social contact, familiar routines, adequate sleep, and the use of hearing aids or glasses can help a person use their remaining abilities. Depression, anxiety, pain, constipation, infection, and poor sleep should be addressed because they may worsen confusion.

Planning ahead can include decisions about finances, care preferences, driving, and who should speak on your behalf if decision-making becomes more difficult.

Complications

Vascular dementia can make falls, missed medicines, poor nutrition, and difficulty managing other health conditions more likely. Stroke-related weakness or balance problems can add to these risks.

Later changes may include urinary incontinence, reduced mobility, swallowing difficulty, and

greater dependence on other people. Swallowing problems can lead to dehydration, weight loss, or food entering the lungs.

A sudden worsening is not always dementia progression. Infection, dehydration, pain, constipation, a medicine effect, or a new stroke can cause delirium, which is a rapid change in attention and awareness.

Prevention

Vascular dementia cannot always be prevented. Previous brain damage cannot be removed, and some people develop the condition despite reasonable efforts to protect their health.

Reducing the risk of stroke and blood vessel damage may lower the chance of developing vascular dementia or further injury. This includes managing high blood pressure, diabetes, high cholesterol, atrial fibrillation, and heart disease.

Not smoking, keeping physically active within your abilities, limiting alcohol, and eating a balanced diet support blood vessel health. These measures are most useful when combined with appropriate care for existing medical conditions.

After a stroke or transient ischaemic attack, sometimes called a mini-stroke, follow-up treatment is important because the risk of another stroke may be higher.

Living with it and what to expect

The course of vascular dementia is not the same for everyone. Some people decline in noticeable steps after additional strokes. Others change gradually because of ongoing small-vessel damage. Stable periods can last for months or longer, but they do not mean the condition has gone away.

Abilities may also fluctuate from day to day. Tiredness, stress, unfamiliar surroundings, or illness can make symptoms more obvious. Rehabilitation after a stroke may improve walking, speech, or practical skills even though the underlying brain injury remains.

Many people continue living at home for some time with reminders, equipment, transport support, and help from relatives or paid carers. Increasing support is usually needed as planning, mobility, communication, or personal care becomes harder.

Regular follow-up can review cardiovascular risks, mood, mobility, medicines, nutrition, driving, and support for carers. It is also a chance to discuss future care while you can take an active part in decisions.

Vascular dementia can shorten life, but no single timeline applies. Outlook is influenced by age, the amount of brain damage, further strokes, heart health, mobility, swallowing, and other medical conditions.

When to get medical help

Arrange a routine appointment if you or someone close to you has noticed a gradual decline in memory, concentration, planning, communication, or ability to manage everyday tasks. Assessment is also important after a stroke if thinking problems continue beyond the early recovery period.

Seek prompt medical advice for a noticeable worsening over hours or days, repeated falls, new swallowing problems, marked sleepiness, poor fluid intake, or sudden changes in behaviour. These may have a treatable cause such as infection, dehydration, pain, or a medicine effect.

Call emergency services immediately for possible stroke symptoms, including:

Even if these symptoms improve quickly, urgent assessment is still needed because they may represent a transient ischaemic attack or stroke.

- One side of the face drooping
- New weakness or numbness in an arm or leg
- Slurred, confused, or lost speech
- Sudden loss of vision, severe imbalance, or unusual severe headache
- Abrupt confusion or loss of awareness

Common questions

Is vascular dementia the same as Alzheimer's disease?

No. Vascular dementia is linked to damage from blood vessel problems, while Alzheimer's disease involves characteristic changes in brain proteins. Their symptoms can overlap, and some people have both conditions.

Can vascular dementia get better?

Damaged brain tissue does not usually recover completely. However, rehabilitation after a stroke may improve specific abilities, and treating depression, infection, poor sleep, or medicine side effects may improve day-to-day thinking. The underlying dementia generally remains.

How quickly does vascular dementia progress?

It may progress in steps, with stable periods between declines, or worsen more gradually. Further strokes can cause sudden changes. The speed is influenced by the pattern of brain damage and the person's wider health.

Is vascular dementia inherited?

Usually not. Families may share risk factors such as high blood pressure, diabetes, or smoking habits rather than inheriting dementia directly. Rare genetic blood vessel conditions can cause early strokes and cognitive decline.

Can I drive with vascular dementia?

Vascular dementia can affect attention, judgement, reaction time, and awareness of hazards. A diagnosis may need to be reported to the driving authority and insurer, depending on local law. A formal driving assessment may help determine whether driving remains safe.

How long can someone live with vascular dementia?

There is no reliable individual timeline. Some people live for years after diagnosis. Age, further strokes, heart and blood vessel health, mobility, swallowing, frailty, and other medical conditions all influence survival.

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