

What is vascular dementia?

Vascular dementia is the second most common form of dementia after Alzheimer's disease. It is caused by problems in the supply of blood to the brain. This factsheet will help you to understand vascular dementia by explaining the causes, symptoms and treatments available.

The term 'dementia' is used to describe a set of symptoms that occur when the brain is damaged by specific diseases. These diseases include Alzheimer's disease and vascular dementia. Someone with dementia may experience loss of memory, mood changes, and problems with language, reasoning and decision making.

Being told that you or a loved one has vascular dementia can be very difficult and you may experience a range of different emotions as time goes on. There is support available if you need it. Alzheimer's Society's National Dementia Helpline can provide information, support, guidance and signposting to other organisations. Details are at the end of this factsheet.

Symptoms of vascular dementia

Vascular dementia affects different people in different ways and the speed of the progression varies from person to person. Typically, the symptoms of vascular dementia begin suddenly, for example after a stroke. Vascular dementia often follows a 'stepped' progression, with symptoms remaining at a constant level for a time and then suddenly deteriorating. Some symptoms may be similar to those of other types of dementia, such as Alzheimer's disease. However, people with vascular dementia may particularly experience:

- problems with speed of thinking, concentration and communication
- depression and anxiety accompanying the dementia
- symptoms of stroke, such as physical weakness or paralysis
- memory problems (although this may not be the first symptom)
- seizures
- periods of severe (acute) confusion.

Other symptoms associated with vascular dementia may include:

- visual mistakes and misperceptions (for example, seeing a rug as a pond)
- changes in behaviour (such as restlessness)
- difficulties with walking and unsteadiness
- hallucinations (seeing or hearing things that aren't there) and delusions (believing things that are not true)
- problems with continence
- psychological symptoms such as becoming more obsessive.

It is important to note that some of these symptoms may not always be direct consequences of the disease. Other factors can also play a part. For example, visual misperceptions may be the result of poor lighting or the particular way a home has been decorated, and some behavioural changes may be a consequence of care needs not being fully met.

How does vascular dementia develop?

To be healthy and function properly, brain cells need a good supply of blood. Blood is delivered through a network of blood vessels called the vascular system. If the vascular system within the brain becomes damaged and blood cannot reach the brain cells, the cells will eventually die. This can lead to the onset of vascular dementia.

A number of conditions can cause or increase damage to the vascular system. These include high blood pressure, heart problems, high cholesterol and diabetes. This means it is important that these conditions are identified and treated at the earliest opportunity. Effective treatment of these conditions may significantly delay or stop the development of vascular dementia.

Types of vascular dementia

There are different types of vascular dementia. The difference between these types depends on what has caused the damage in the brain, and which part of the brain has been damaged.

Stroke-related dementia

A stroke occurs when the blood supply to part of the brain is cut off. This interruption in blood supply causes permanent damage to the brain. A stroke is usually the result of a burst blood vessel (known as haemorrhagic stroke) or a blood clot (known as an ischemic stroke).

The symptoms that a person experiences as a result of a stroke depend on which area of the brain has been damaged. For example, if the area affected is responsible for movement of an arm or leg, paralysis might occur. If it is responsible for speech, the person might have problems communicating. Equally, damage to particular areas in the brain can cause the symptoms of dementia.

The most common type of vascular dementia is called multi-infarct dementia, which is caused by a series of small strokes. These can be so tiny that the person might not notice any symptoms, or the symptoms may only be temporary.

When vascular dementia develops after an obvious stroke, it is sometimes called post-stroke dementia (or 'single-infarct dementia').

Sub-cortical vascular dementia (small vessel disease or Binswanger's disease)

Sub-cortical vascular dementia is sometimes referred to as small vessel disease. There is also a specific form of sub-cortical vascular dementia called Binswanger's disease. Sub-cortical vascular dementia is caused by damage to the tiny blood vessels that lie deep within the brain. Symptoms may include difficulties walking, clumsiness, lack of facial expression and speech difficulties. Loss of bladder control early on in the disease is also common. These symptoms, however, are not always present and may come and go. Some people may experience sub-cortical vascular dementia as well as stroke.

Mixed dementia (vascular dementia and Alzheimer's disease)

About 10 per cent of people with dementia have a type known as mixed dementia. A diagnosis of mixed dementia means that Alzheimer's disease, as well as stroke or small vessel disease, may have caused damage to the brain. The symptoms of mixed dementia may be similar to either Alzheimer's disease or vascular dementia, or may be a combination of the two.

Factors that can increase the risk of vascular dementia

Many of the factors that increase the risk of vascular dementia are the same as those that increase the risk of cardiovascular disease (for example, smoking). This is because the cardiovascular system (made up of the heart and blood vessels) is responsible for delivering blood to the brain.

Factors that can increase a person's risk of developing vascular dementia include:

- a medical history of stroke, high blood pressure, high cholesterol, diabetes (particularly type II), heart problems or sleep apnoea (where breathing stops for a few seconds or minutes during sleep)
- a lack of physical activity, drinking more than recommended levels of alcohol, smoking, eating a fatty diet, or leaving conditions such as high blood pressure or diabetes untreated
- a family history of stroke or cardiovascular disease
- an Indian, Bangladeshi, Pakistani or Sri Lankan ethnic background - differences in vascular risk factors (such as heart disease) in these communities may contribute to the increased risk
- an African-Caribbean ethnic background - more research is needed to know why African-Caribbean people have an increased risk of vascular dementia.

Diagnosing vascular dementia

If you, or someone close to you, are worried about dementia, the first step is to visit the GP as soon as possible. The earlier a diagnosis is made, the better the chance of treatment to slow the progression of the disease. The GP will need to find out about the person's symptoms, medical history, current health and lifestyle.

Unless another cause can be found for the symptoms, the doctor should refer the person to a specialist for cognitive tests to assess their attention, planning and thinking speed. The specialist may carry out brain scans to help make a diagnosis. Investigations will also aim to identify conditions that may be contributing to the progression of vascular dementia. These conditions include high blood pressure, heart problems, diabetes and high cholesterol.

It is often helpful if a close friend or family member accompanies the person to the first GP appointment. They may be able to describe subtle changes that the person themselves has not noticed.

If the person has any family history of vascular dementia, or related conditions (such as heart problems), they should mention this to the doctor.

Always consult a doctor if you experience any sudden symptoms, such as slurred speech, weakness on one side of the body, or blurred vision - even if they are only temporary. These symptoms may be caused by temporary interruptions in the blood supply within the brain. If left untreated, they can lead to permanent damage.

Treatment

The speed that vascular dementia progresses varies from person to person. Although the brain damage that causes vascular dementia cannot be reversed, it may be possible to slow the progression of the disease in a number of ways. These include:

- taking medication to treat any underlying conditions, such as stroke, high blood pressure, high cholesterol, diabetes or heart problems
- adopting a healthier lifestyle by stopping smoking, taking regular exercise, eating healthily, and drinking alcohol only in moderation
- receiving rehabilitative support, such as physiotherapy, occupational therapy and speech therapy, to help the person maximise their opportunities to regain their lost functions.

The National Institute for Health and Clinical Excellence (NICE) has issued guidelines on drug treatments for Alzheimer's disease (including cholinesterase inhibitors and memantine), but has not recommended these same drugs for treating vascular dementia. These drugs may, however, be prescribed to treat mixed dementia, particularly when Alzheimer's disease is predominant.

For details of Alzheimer's Society services in your area, visit alzheimers.org.uk/localinfo

For information about a wide range of dementia-related topics, visit alzheimers.org.uk/factsheets

Further reading

To learn more about vascular dementia, see our publication *An introduction to vascular dementia*. The booklet is priced at £2 and can be ordered from Xcalibre on 01628 529240 or alzheimers@xcalibrefs.co.uk

Alternatively, you can buy it from our online shop at alzheimers.org.uk/shop

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This factsheet has also been reviewed by people affected by dementia. A list of sources is available on request.



Alzheimer's Society National Dementia Helpline

England, Wales and Northern Ireland:
0300 222 11 22

9am–5pm Monday–Friday
10am–4pm Saturday–Sunday

alzheimers.org.uk

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