

Vascular cognitive impairment is caused by lack of blood supply to parts of the brain. If the mental symptoms are severe enough to significantly interfere with everyday activities, the condition is called vascular dementia.

Vascular cognitive impairment may develop following an obvious stroke (or strokes). This will result from blockage (or haemorrhage) in one of the larger arteries in the brain. The disturbance of blood supply leads to death of brain cells (“infarction”) and so sudden loss of brain function. Symptoms depend on the part of the brain affected and extent of damage.

Alternatively, vascular cognitive impairment can develop more slowly when only the smaller arteries are affected, resulting in multiple little strokes (termed “lacunar infarcts”) or progressive damage to the deep layers of white matter in the brain. This is sometimes termed **small vessel disease**, or Binswanger disease after the doctor who first described it. The condition has a characteristic ‘subcortical’ clinical picture of mental slowing and difficulty retrieving memories, often together with a shuffling walk. Usually there is a past history of risk factors such as high blood pressure, smoking, diabetes, and/or previous stroke or heart disease.

Symptoms of small vessel (subcortical) vascular cognitive impairment

Typically there is a gradual onset and progression of cognitive problems. Sometimes there is a more sudden presentation or worsening, associated with a small stroke or transient ischaemic attack (TIA).

Common features are:

- Problems with so called **executive skills**. These include planning, organisation, switching attention between tasks and decision making.
- **Speed of response** is particularly slow. This impacts on everyday memory though forgetfulness is less severely affected than in many other forms of dementia.
- **Speech** may become slower and less distinct, but language is generally preserved.
- **Walking** may become unsteady, with a characteristic slow, shuffling gait and an increased risk of falls.
- People may appear generally more **clumsy and slow** carrying out everyday activities
- Changes in **personality or mood** are common, typically apathy, irritability and depression.
- **Urinary symptoms** develop that aren’t caused by urological disease
- **Swallowing difficulties** may arise, including coughing or choking on food or drink

The following factors are taken into account when reaching the diagnosis:-

- symptoms and their presentation
- past history (especially presence of risk factors)
- pattern and severity of problems identified on cognitive testing
- findings on brain scan of multiple lacunar infarcts and extensive ‘white matter change or ‘small vessel disease’

What causes subcortical vascular cognitive impairment?

The widespread, microscopic areas of damage in the brain are the result of thickening and narrowing (arteriosclerosis) of the very small arteries that supply the deep, subcortical areas. As the arteries become more and more narrowed, the blood supplied by these arteries decreases and the brain tissue dies. If one of the small arteries suddenly becomes blocked by clot it results in a small lacunar stroke.

What treatment is available?

General management of vascular cognitive impairment centres on good medical, psychological and social care, along with support and education. Unfortunately there is no treatment to reverse vascular-related damage once it is established. A healthy diet, regular exercise and social stimulation all promote an active brain.

Anti-dementia drugs used in Alzheimer's disease are not prescribed for vascular cognitive impairment. Anti-depressant drugs may be helpful in some cases. Stroke and vascular cognitive impairment is preventable if the underlying vascular disease is recognized and treated early:

- **High blood pressure** may require treatment.
- **Diabetes** (if present) should be regularly checked and controlled by diet/medication.
- **Heart problems** need active treatment. An irregular heart beat (atrial fibrillation) may require anticoagulant treatment.
- **Smoking** should be stopped.
- **Raised cholesterol** may benefit from change in diet and medication.
- **A small dose of aspirin** (and related drugs) reduces risk of further strokes (and heart attacks) by making the blood less likely to clot.

Where can you get more information?

The Alzheimer's Society has an interest in all forms of dementia and publishes information leaflets and has a telephone help line (0845 300 0336). The local Cardiff and Vale Branch may be contacted at 02920 20434960, or by email cardiffandvale@alzheimers.org.uk.

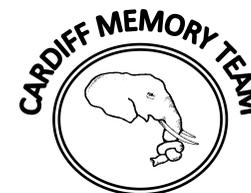
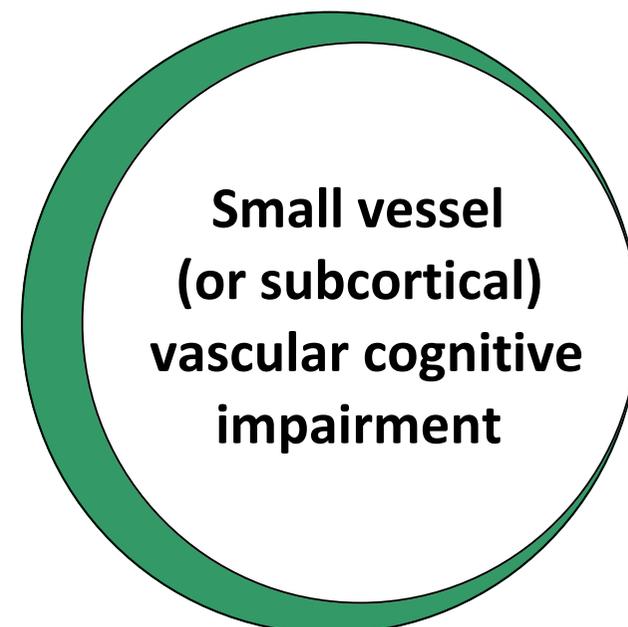
The Stroke Association may also provide relevant information and support. The Stroke Helpline phone number is 0845 3033100. The local branch number is 02920 524400, or e-mail southwales@Stroke.org.uk

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