

Vascular parkinsonism

Information for patients

What is vascular parkinsonism?

Parkinsonism is an umbrella term that can describe the combination of slowing of movement, tremor and stiffness. The most common cause in the UK is Parkinson's Disease, but there are other causes.

Vascular parkinsonism causes problems with movement, balance and walking due to issues with small blood vessels in the brain. Vascular parkinsonism has some similarities to Parkinson's Disease but is a different condition. Vascular parkinsonism mainly affects the lower body (legs).

What causes vascular parkinsonism?

Vascular parkinsonism is caused by damage (often called wear and tear) to small blood vessels in the brain (cerebrovascular disease). This damage may occur gradually after several small strokes or may occur without any signs of stroke at the time.

Not everyone who has had a stroke will develop vascular parkinsonism. Some studies suggest that lacunar strokes which affect the deep structures of the brain are more likely to cause vascular parkinsonism. At the time of a lacunar infarct the person may not know that they have had a stroke. Strokes affecting the basal ganglia can also cause vascular parkinsonism.

Risk factors for vascular parkinsonism

Vascular parkinsonism is caused by a reduction of the blood supply to the brain. The main risk factor for developing vascular parkinsonism is a history of a previous stroke. Other risk factors which may contribute to the development of cerebrovascular disease include:

- High blood pressure (hypertension)
- Diabetes
- High cholesterol
- Smoking
- Heart disease
- Older age.

What are the symptoms of vascular parkinsonism?

Vascular parkinsonism usually affects the legs more than the arms. It typically causes problems and difficulties with walking including slowness, shuffling, hesitancy, freezing, difficulty turning, poor balance and falls. People sometimes report that they have 'sticky feet' or 'freeze.' Mild tremor may occur but is less common than in Parkinson's disease. For some people, other symptoms may include memory and thinking problems, urinary urgency or incontinence, changes in mood, speech and swallowing.

How is vascular parkinsonism diagnosed?

There is no single test for vascular parkinsonism. The diagnosis is made clinically meaning your doctor will review your history and perform a physical exam. The doctor will ask about your medical history, especially if you have a history of stroke and other risk factors. Then a brain scan may be required. Brain scans (CT or MRI) may show changes of previous strokes or small vessel disease which demonstrates cerebrovascular disease. These are like tiny injuries mainly in the white matter of the brain. Damage within the white matter slows the processing of nerve signals from the legs to the brain and the brain to the legs.

How is vascular parkinsonism treated?

There is no cure for vascular parkinsonism.

Treatments to reduce the future risk of stroke and vascular disease in future may be discussed with you. This may include lifestyle changes such as stopping smoking or medications to manage high blood pressure, high cholesterol, diabetes and in some cases blood thinning medication.

Parkinson's medication (Levodopa) may be tried but is often less effective or not effective in people with vascular parkinsonism.

Treatment is mainly focused on managing the walking and balance issues associated with vascular parkinsonism and this may involve input from physiotherapists or occupational therapists.

How does vascular parkinsonism progress?

Vascular parkinsonism is a life-long condition, and it may progress slowly over time but there may be a 'stepwise decline' if further strokes or other illnesses occur that affect movement, walking and balance. People with vascular parkinsonism may be at increased risk of falls. Everybody is affected differently, when the damage becomes severe it can develop into vascular dementia.

How is vascular parkinsonism different to Parkinson's Disease?

Vascular parkinsonism is not the same as Parkinson's Disease but sometimes early on it can be difficult to tell these conditions apart. Sometimes your doctor might try Parkinson's medications (Levodopa) to see if they help your movements and sense of wellbeing. If there is not a significant improvement with these medications, then vascular parkinsonism may be more likely.

Feature	Vascular parkinsonism	Parkinson's Disease
Cause	Small strokes / poor blood flow to brain	Loss of dopamine producing brain cells
Area affected	Legs, walking, balance	Arm then leg then whole body
Tremor	Often not present or mild	Common
Response to Levodopa	Often limited or no response	Usually a good response
Progression	Stepwise or slow	Gradual steady change
Brain scan	Small vessel disease or strokes	Usually normal in early disease

Is there research for vascular parkinsonism and small vessel disease?

Yes, there is active clinical research programme within the University of Edinburgh and NHS Lothian, and more information can be found at the website:

<https://clinical-brain-sciences.ed.ac.uk/row-fogo-centre-for-research-into-ageing-and-the-brain/about-the-row-fogo-centre>

