Posterior cortical atrophy

This help sheet describes posterior cortical atrophy, as well as its possible causes, signs and symptoms, diagnosis and treatment.

- Posterior cortical atrophy is a progressive degenerative condition involving the loss and dysfunction of brain cells, particularly at the posterior (back) of the brain.
- Brain tissues in the cortical (outer) layer atrophy (shrink) as cells are lost.
- It can affect someone's visual processing skills, literacy skills such as spelling, writing and arithmetic, or both.
- People often experience the first symptoms of posterior cortical atrophy in their mid-50s or early 60s. However, it can also affect older people.

Comparisons with Alzheimer's disease

Many researchers and medical experts consider posterior cortical atrophy to be a possible variant form of Alzheimer's disease. This is due to the similarities, in many cases, with brain changes observed in both types of dementia. However, the symptoms for each type are different.

Alzheimer's disease affects most areas of the brain and is commonly associated with deterioration in memory, language and perception.

In posterior cortical atrophy, changes tend to be at the back of the brain, affecting only the skills which that part of the brain supports. That means people living with posterior cortical atrophy tend to have well-preserved memory, but show a progressive, dramatic and relatively selective decline in visual processing and/or literacy skills such as spelling, writing and arithmetic.

Signs and symptoms of posterior cortical atrophy

Initially, posterior cortical atrophy can affect people in different ways. In some instances, the condition affects both sides of the brain equally. This leads to a combination of many of the symptoms outlined below.

For other people, the condition affects one part of the brain first, or more significantly.

The first symptoms may be difficulties with skills such as literacy, numeracy and being able to make skilled movements.

Someone may have difficulty:

- recalling the exact spelling of words
- handwriting or typing
- remembering the shape or name of particular letters or numbers
- mental arithmetic
- dealing with money and small change
- making gestures like waving or giving a thumbs up
- using reading glasses, particular tools, kitchenware or implements such as cutlery or scissors
- dressing and clothing (this is partly related to difficulties with visual perception).

Experiencing visual problems is also common.
Someone may have difficulty:

- recognising objects in pictures (particularly if the objects are incomplete or taken from unusual angles)
- recognising faces, such as those of friends, relatives or television characters
- appreciating the spatial location of objects, such as reaching out to pick something up, but missing it
- judging speed or distance, such as when walking downstairs or driving
- stationary objects (perceiving that they are moving)
- following text while reading, such as missing lines of text
- reading particular words, because letters seem to move around

- reading certain types of text such as larger print, like headlines
- with objects appearing to have an unusual colour
- with increased sensitivity to bright light or shiny surfaces
- seeing clearly (experiencing double vision or feeling as though their eyes are jerking around).

Many people consult with an eye specialist to investigate visual problems. However, the problems are not related to the eyes, but to the way the brain interprets the information it is receiving.

Diagnosing posterior cortical atrophy

The first symptoms of posterior cortical atrophy are often subtle and difficult for the person experiencing them to explain.

Typically, an individual with visual problems is referred to an eye specialist, before being referred to a neurologist. Even when an appropriate referral has been made, it may take some time before a formal diagnosis.

There is no diagnostic test for posterior cortical atrophy. However, a number of tests may exclude potentially treatable causes, such as infection, or brain tumours. These tests may include some or all of the following:

- specialised visual tests by eye specialist
- a full neuropsychological assessment of thinking and reasoning abilities
- blood tests
- brain imaging
- lumbar puncture, examining the fluid around the brain and spinal cord
- other medical tests.

If brain cell loss has caused shrinkage of the back part of the brain, this may be visible on a brain scan. However, it may be difficult to diagnose. A definitive diagnosis can only be made post-mortem once the brain tissue is examined by a pathologist.

Possible causes of posterior cortical atrophy

In most cases, the underlying cause of posterior cortical atrophy is Alzheimer's disease. But other conditions can show similar initial symptoms. These include Lewy body disease, corticobasal degeneration and Creutzfeldt-Jakob disease.

How posterior cortical atrophy progresses

As posterior cortical atrophy progresses, finding the right words, day-to-day memory and general cognitive functions may be affected.

In the later stages, the person may develop jerking movements of their limbs and, occasionally, seizures. Posterior cortical atrophy causes progressive and irreversible decline in a person's skills and abilities over time.

Treatment options

There is no medication available to treat posterior cortical atrophy specifically. Medications used to treat Alzheimer's disease may be prescribed. However, these medications are only designed to treat the symptoms of the disease. They may slow the condition's progression, but they are not a cure.

Psychological therapies or antidepressant medication may be used to improve low mood, depression, irritability, frustration and loss of self-confidence.

Visual aids can help people impacted by visual impairment. Products include talking clocks or watches, mobile phones with simplified displays, cooking aids such as sensors that beep when a cup is almost full and audio books.

Occupational therapy can help people find ways to adapt to changes in abilities and maintain independence and wellbeing.

Seeking support

Support is available for someone living with posterior cortical atrophy, their family and carers. This support can make a positive difference to managing the condition and living well.

Adjusting to changes in abilities, while maintaining enjoyable activities, is important for wellbeing.

Learning about the condition and strategies for living well with dementia can be beneficial for everyone.

Additional reading and resources

- **Dementia Australia library service**
  Visit: **dementia.org.au/library**
- **Dementia Australia support**
  Visit: **dementia.org.au/support**
- **Dementia Australia education**
  Visit: **dementia.org.au/education**
- **Vision Australia visual aids advice and products**
  Visit: **visionaustralia.org**
- **Royal Society for the Blind**
  Visit: **rsb.org.au**

Further information

Dementia Australia offers support, information, education and counselling.

National Dementia Helpline: 1800 100 500

For language assistance: 131 450

Visit our website: dementia.org.au

It is important to remember everyone living with dementia is unique. The content in this help sheet is general in nature and we recommend you seek professional advice in relation to any specific concerns or issues you may have.