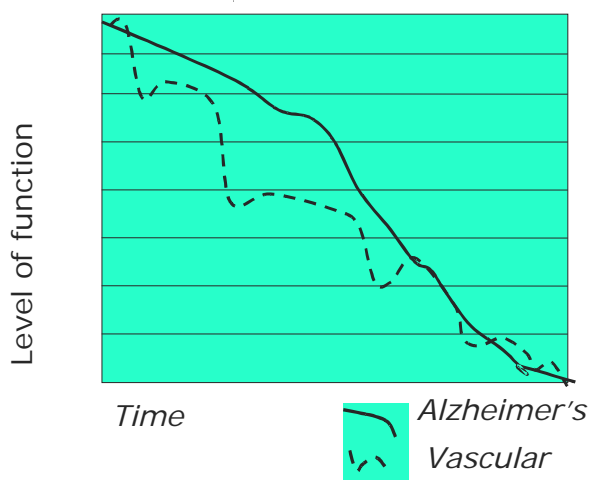




Vascular Dementia

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The pattern of progression
vascular and Alzheimer's dementia



What is vascular dementia?

Dementia is the general term for a gradual progressive decline in a person's memory and other mental abilities. Vascular dementia is the second most common cause of dementia and recently its incidence has been found to be higher than previously expected. The most common type of vascular dementia is multi-infarct dementia (MID) where the brain has been damaged by repeated small strokes. However, vascular dementia can be caused by a number of other conditions including high blood pressure (hypertension), irregular heart rhythms (arrhythmias) and diseases which cause damage to the arteries in the brain. Indeed, any condition which causes the circulation to the brain to be impaired or damaged carries a risk to mental abilities. Vascular dementia accounts for almost 20% of all cases of dementia, with at least another 20% of people having both Alzheimer's

Introduction

This information sheet is for people with vascular dementia and their carers. It includes medical information about the diagnosis and treatment of vascular dementia, and practical information for carers.

If you require information about other issues regarding dementia call the freephone Dementia Helpline on 0808 808 3000, or see our website at www.alzscot.org.

disease and vascular dementia (Brown 1993)¹. This means that there could be about 11,000 – 12,000 people in Scotland with vascular dementia and another 11,000 – 12,000 people with vascular dementia and Alzheimer's disease. It usually affects people between the ages of 60-75 years and is slightly more common in men than women.

Vascular dementia is similar to Alzheimer's disease in that it results in the progressive deterioration of the higher functions of the brain, such as:

- memory
- new learning
- recognition
- fine motor movements
- planning

One major difference with vascular dementia is that these changes will generally occur in a stepwise pattern due to the sudden occurrence of strokes. (See figure overleaf)

The person will usually deteriorate at the point that they have a stroke, but they may improve or remain stable for a while before the next stroke occurs, when they will again deteriorate. It is often difficult to decide with certainty whether a person has Alzheimer's disease or vascular dementia and often a patient will have both types of dementia.

Causes of vascular dementia

Vascular dementia is due to impaired blood supply to the brain and can be divided into different types depending on the nature of the vascular disease.

- **Arteriosclerotic dementia** - reduced oxygen supply to the brain (chronic ischaemia).
- **Vascular dementia following a stroke.** Major strokes can be fatal or may lead to physical disability or vascular dementia due to damage to the brain.

- **Multi-infarct dementia (MID)** which develops gradually following a number of mini-strokes or transient ischaemic attacks (TIAs – see below), which the person may not realise they are having. MID affects the cerebral cortex, which is the outer part of the brain.
- **Subcortical vascular dementia (Binswanger's disease)** which involves vascular damage to the nerve cell fibres of the inner parts of the brain (deep white matter) by affecting the sheath which insulates nerve fibres in the brain (demyelination).
- There is also a vascular dementia which involves both cortical and subcortical damage to the brain.
- There are rarer causes of vascular dementia which may affect some people with auto-immune inflammatory diseases that affect the arteries such as **systemic lupus erythematosus** (SLE or lupus) and **temporal arteritis**.

While vascular dementia can be caused in several different ways, the most common cause is a blockage of small blood vessels (arteries) deep within the brain. When any part of the body is deprived of blood which carries oxygen and nutrients it dies and this is called an infarct. When this happens in the brain it is called a stroke. Depending on where the stroke occurs in the brain different functions of the brain will be affected. Each side of the brain controls the movement on the other side of the body, thus strokes on the left side of the brain can cause problems in moving the limbs on the right side of the body and vice versa. Strokes on the left side are also especially associated with problems in language and memory. Strokes on either side can cause problems with recognition of objects and coordination of complex tasks. Strokes in certain areas of the brain can also cause changes in the person's mood and personality.

¹ Brown MM (1993) Vascular Dementia. *Alzheimer's Review* 3(2) 57-62

Transient ischaemic attacks (TIAs)

Transient ischaemic attacks (TIAs) are temporary interruptions of blood flow to the brain, (a stroke is a permanent cut off of blood to part of the brain). TIA warning signs include:

- numbness, weakness, or paralysis of the face, arm or leg, especially on one side
- sudden blurred, decreased or complete loss of vision in one or both eyes
- difficulty speaking or understanding simple statements
- loss of balance, dizziness or loss of co-ordination especially when combined with another warning sign
- sudden severe headache in one part of the head.

These warning signs can last for a few hours and never last longer than 24 hours. They should **not** be ignored, as diagnosis and treatment may well prevent a serious stroke.

Contact a doctor immediately if these symptoms occur.

Strokes

Strokes occur when brain cells are deprived of their blood supply and then die. They can be caused by damage to the brain or neck arteries. The damage may be a blockage or bleeding into the brain caused by:

- **Thrombosis:** A gradual narrowing and eventual blockage of an artery, usually because of a build up of cholesterol and fatty deposits. Approximately 60% of strokes are caused by thrombosis.
- **Embolism:** A blockage of a brain or neck artery by a clot, either a blood clot elsewhere in the body (often the heart) which travels to the brain, or a piece of fatty deposit broken away from the lining of the arteries. Approximately 20% of strokes are caused by embolism.
- **Haemorrhage:** A burst in a brain artery causing bleeding in the brain. Approximately 20% of all strokes are caused by haemorrhage.

Symptoms and diagnosis

Serious forgetfulness, mood swings and other behavioural changes are **not** a normal part of

ageing. They could be caused by poor diet, malfunctioning thyroid, lack of sleep or too many medicines. Feelings of loneliness and boredom or depression can also cause forgetfulness. These conditions can often be helped and medical advice should be sought. Sometimes, however, mental changes are caused by diseases that permanently damage the brain cells.

Multi-infarct dementia

MID is probably the most common type of vascular dementia and is caused by a number of 'mini-strokes'. The person may not be aware of these small strokes and the symptoms may last for only a few hours up to a few days. A person with MID is likely to have better insight into their condition right up until the later stages, as compared with people who have Alzheimer's disease, where insight is lost relatively early. Parts of their personality may also remain relatively intact for longer.

The symptoms can be quite varied as the stroke can occur in any part of the brain and therefore will affect different functions. Not everyone with MID will suffer from all of these symptoms but they may include:

- mild weakness in an arm or leg
- slurred speech
- dizziness
- trouble remembering things especially recent events
- difficulty following a conversation or communicating properly
- confusion
- hallucinations where they see or hear things which are not real, or delusions
- depression with emotional swings when laughter or tears can occur for no reason
- epileptic fits or partial or total paralysis sometimes occur but are rare
- incontinence of bladder and/or bowel.

Subcortical vascular dementia

Binswanger's disease was once considered rare, but it is being reassessed and may in fact be relatively common. It is the 'white matter' deep within the brain which is affected and the pattern of symptoms is different from MID.

Symptoms can include:

- slowness and lethargy in thinking and actions
- difficulty walking and may have to walk with legs far apart
- emotional ups and downs
- loss of bladder control early in the course of the disease
- most people with Binswanger's disease have or have had high blood pressure.

Diagnosis and tests

Anyone who shows signs of dementia and has a history of strokes should have a complete medical examination. An accurate diagnosis is vital in order to treat the person and reduce the risk of further strokes and to slow the progress of vascular dementia. The doctor will ask about the person's diet, medications, sleep patterns, personal habits, history of high blood pressure, diabetes, cholesterol problems and any abnormal heart patterns. Make sure the doctor knows of any other medical problems or recent stressful events in the person's life which might account for the symptoms.

One carer found it very difficult to obtain a diagnosis for his partner and it took years to finally discover she had vascular dementia. 'The doctor said it was just old age'. The initial symptoms were difficulty remembering things, finding household tasks more difficult, becoming less sociable.

Ensure the person you are concerned about receives a thorough examination from the doctor and ask for an appointment with a specialist if you are not happy with the diagnosis.

The doctor will look for signs of stroke by checking for weakness or numbness in the arms or legs and for any difficulty with speech. The doctor may also ask for further tests,

which could include blood pressure readings, cholesterol levels, an electrocardiograph (ECG), a chest X-ray and blood tests including thyroid function and vitamin levels. Further tests may be required including a CT scan² or a magnetic resonance imaging scan (MRI)³. The different types of scans allow the specialists to examine the brain and reveal any areas damaged by strokes, which would indicate the person may have vascular dementia.

The person may also be sent to a psychologist or psychiatrist to assess reasoning, learning ability, memory and attention span.

People with vascular dementia should be offered a **skilled multidisciplinary assessment** of their condition through referral to a specialist. This service may be part of the general stroke service or the psychogeriatric service. The services might include:

- rehabilitation to restore as much mental or physical ability as possible.
- diagnosis and treatment of any underlying disease such as high blood pressure (hypertension), high cholesterol, or diabetes
- speech and language therapy to help the person make the best use of their remaining abilities
- occupational therapy to help the person cope better and more safely at home.

Course of the illness

For each type of vascular dementia there will be a different progression of the illness.

Major strokes. For those who have suffered a major stroke the symptoms will be severe and will start from the date of the stroke. The brain tissue which has been destroyed cannot be repaired and generally the person will not improve, although in some cases the brain manages to adjust and work around the

² CT scans or CAT scans use x-rays but show more detail and allow the specialist to see inside the brain.

³ MRI scans use radio waves and a strong magnetic field to give a clear and detailed picture of the brain.

injured area.

Mini-strokes which lead to multi-infarct dementia (MID). If someone has MID caused by mini-strokes the symptoms may not be evident at the beginning of the disease, but will gradually become more obvious as more strokes occur. Usually the disease progresses in a step-wise fashion following the strokes. After a stroke the person will deteriorate, with the symptoms becoming more pronounced, and then will often improve and their condition will stabilise until the next stroke, when they will decline again. If no further strokes occur the progression of vascular dementia may stop and in some cases the abilities of the person may improve. Sometimes the steps are so small that the decline appears gradual, which is very similar to the progression of Alzheimer's disease.

Subcortical vascular dementia. Early symptoms are slowness and lethargy, walking difficulties, emotional ups and downs and lack of bladder control. The dementia will gradually progress later.

Prevention and treatment

Risk factors

The risk factors for vascular dementia are the same as those associated with strokes; high blood pressure (hypertension), diabetes, high cholesterol level and heart disease. To a large extent these risk factors are controllable and while no treatment can reverse damage that has already been done, treatment to reduce the risk of strokes occurring or additional strokes is possible. Medicines can be used to control blood pressure, high cholesterol, heart disease and diabetes.

Giving up smoking, avoiding an excessive alcohol intake, having a healthy diet and regular exercise will all lessen the risk of having a stroke. Speak to your GP who will be able to help with advice and information.

Drugs

Aspirin and warfarin are widely used to lessen the risk of further strokes by preventing clots from forming in small blood vessels. There are

also drugs available to control high blood pressure, diabetes and high cholesterol levels. Drugs to control depression and relieve restlessness and help the person with vascular dementia to sleep better can also be prescribed.

There are several new drugs recently licensed for treating Alzheimer's disease (like donepezil (Aricept) or galantamine (Reminyl)). Although these are usually prescribed for someone with Alzheimer's disease they are now being given to people with vascular dementia, as some studies have suggested they may be of some help.

Very rarely surgery may also be a useful option if there is a significant narrowing in the carotid artery, which is the main blood vessel to the brain.

Caring for someone with vascular dementia

Information and support

If you need help with a particular problem, specific information or access to a service it is essential that you ask for it. Speak to your GP, social worker or Alzheimer Scotland – Action on Dementia for information and advice. The **Dementia Helpline**, on freephone **0808 808 3000** is open 24 hours a day for information and emotional support, and can provide a free information pack and information on services and support near you. Information is also available on the website at www.alzscot.org. Contact a local carers group to find out more about other people who are caring or have cared for someone with vascular dementia, as they will often be a vital source of information and support.

Looking after someone with vascular dementia can be lonely, difficult and exhausting. There are ways in which you can help.

Insight

Supporting the person with dementia when they are distressed can at times be difficult if the carer is feeling overwhelmed and distressed. This can be especially relevant for someone with vascular dementia who may be aware of their condition and declining ability to be independent. One carer found it particularly

distressing when his wife had to finally go into a care home and she would occasionally ask to come home. Another carer mentioned that his wife was acutely aware of her increasing dependence on him and would become very tearful and sad which added to the distress he felt.

This is very difficult to deal with, so make sure you have support from family, other carers or professional staff.

Look after yourself

Being aware that these changes will occur and having support systems in place will help you cope with caring for a person with vascular dementia.

Make sure you have some time to yourself. This can mean having a member of your family, a friend or another carer looking after the person with dementia while you take time to do the things you would like to do. Perhaps if the person goes to a day care centre you can use the time to catch up on things you need to do or enjoy an activity you would otherwise be unable to do. Respite breaks could give you a few days or a couple of weeks to go on holiday yourself or catch up on all the things you would otherwise be unable to do. Having a break from caring is very important as it will enable you to care effectively without becoming exhausted or even ill.

For difficult situations and times when you do not know how to cope, for instance with continence problems or dealing with delusions, seek help from your social worker, your GP or a consultant, health visitor, an organisation such as Alzheimer Scotland – Action on Dementia or another carer. One carer who took a while to come to terms with his situation finally found that once he had spoken to other carers and the social worker that he could cope with caring.

Planning ahead

Realising that other carers have gone through similar situations and that there is help from various sources helped one carer sort out how he could best care for his partner and enabled

him to look to the future and see what care might be necessary for her.

Another carer emphasised the need to sort out financial matters while the person with dementia can still make decisions for themselves. This is particularly relevant for someone who has vascular dementia as the progression of the dementia is unpredictable and a stroke could occur very suddenly.

It is a good idea to see a solicitor, who can help with powers of attorney, wills or drawing up a trust. Alzheimer Scotland – Action on Dementia has a publication called *Dementia, Money and Legal Matters* which explains in detail all these options; call the Dementia Helpline for a copy. This publication is also on our website: www.alzscot.org.

Services

There are many services which will help the person with vascular dementia and their carer cope. Getting help in the home with bathing, dressing etc. may well make all the difference to how you cope. Using a day care centre to allow you some time to yourself while knowing the person with dementia is well cared for may also be a vital part of helping you continue to care at home. Exploring all these options is therefore very important.

The person with vascular dementia is entitled to a **community care assessment** from the social work department to work out what services would help. Carers are also entitled to a **carer's assessment** to work out what help they might need.

Contact your local social work department to ask for an assessment. The freephone Dementia Helpline (0808 808 3000) can explain how the assessments will be done and what services are available. They can also put you in touch with your local Alzheimer Scotland – Action on Dementia services for support.

Useful websites

Alzheimer Scotland – Action on Dementia: www.alzscot.org - over 500 pages about a wide range of issues relating to dementia, including caring, support,

treatment, research, campaigns, training, volunteering and local services.

Chest, Heart and Stroke Scotland (CHSS):

www.chss.org.uk - CHSS provides care and support for people affected by chest, heart and stroke illness.

Helplines

Alzheimer Scotland – Action on Dementia - freephone 24 hour Dementia Helpline - 0808 808 3000.

For confidential information and emotional support on any issue to do with dementia.

Chest Heart and Stroke Scotland Advice Line – 0845 077 6000; 9.30am – 12.30pm and 1.30pm – 4pm, Monday to Friday.; **calls charged at local rates, out of hours answer phone. Provides confidential independent advice on all aspects of chest, heart and stroke illness for patients, carers and health professionals. It is staffed by specialist nurses.**

Acknowledgements

Mr John Shand for kindly agreeing to be interviewed for this information sheet and all his help with proof reading.

Iris Sinclair for putting me in touch with a carer.

Angella Fulton for information.

Alan Hughes for checking the information sheet and providing additional information.

This information sheet was produced as part of the Dementia Carers Project, funded by the Scottish Executive under the Carers' Strategy for Scotland.



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