Symptoms causes and possible solutions of dementia

Introduction (source, NHS)

Dementia is a syndrome (a group of related symptoms) that is associated with an ongoing decline of the brain and its abilities. These include:

thinking,

language,

memory,

understanding, and

judgement.

People with dementia may also have problems controlling their emotions or behaving appropriately in social situations. Aspects of their personality may change. Most cases of dementia are caused by damage to the structure of the brain.

How common is dementia?

Dementia is a common condition. In England alone, there are currently 570, 000 people living with dementia. That number is expected to double over the next 30 years.

Usually dementia occurs in people who are 65 or over. The older you get, the more likely you are to develop it.

It is estimated that dementia occurs in:

1. 4% of men and 1. 5% of women aged between 65 and 69,

3. 1% of men and 2. 2% of women aged between 70 and 74,

5. 6% of men and 7. 1% of women aged between 75 and 79,

10. 2 % of men and 14. 1% of women aged between 80 and 84, and

19. 6% of men and 27. 5% of women aged 85 or over.

Types of dementia

Listed below are the different types of dementia.

Alzheimer’s disease, where small clumps of protein, known as plaques, begin to develop around brain cells. This disrupts the normal workings of the brain.

Vascular dementia, where problems with blood circulation result in parts of the brain not receiving enough blood and oxygen.

Dementia with Lewy bodies, where abnormal structures, known as Lewy bodies, develop inside the brain.

Frontotemporal dementia, where the frontal and temporal lobes (two parts of the brain) begin to shrink. Unlike other types of dementia, frontotemporal dementia usually develops in people who are under 65. It is much rarer than other types of dementia.

This section focuses on vascular dementia, dementia with Lewy bodies and frontotemporal dementia. See Useful links for more information about Alzheimer’s disease.

Outlook

In clinical terms, the outlook for dementia is not good. In most cases, there is no cure and symptoms will get worse over time.

However, even if a person’s dementia cannot be cured, there are a number of effective treatments that can help them to cope better with their symptoms and improve their quality of life.

Symtoms

Vascular dementia

The symptoms of vascular dementia can develop suddenly and quickly worsen. Or they can develop gradually over many months.

Symptoms include:

increasing difficulties with tasks and activities that require concentration and planning,

memory loss,

depression,

changes in personality and mood,

periods of mental confusion,

low attention span,

urinary incontinence,

stroke-like symptoms, such as muscle weakness or paralysis on one side of the body,

wandering during the night, and

slow and unsteady gait (the way that you walk).

Symptoms of dementia with Lewy bodies

The symptoms of dementia with Lewy bodies usually develop gradually but get more severe over the course of many years.

The symptoms of dementia with Lewy bodies include:

memory loss,

low attention span,

periods of mental confusion,

delusions (believing in things that are not true),

difficulty planning ahead,

muscle stiffness,

slower movement,

shaking and trembling of arms and legs,

shuffling while walking,

problems sleeping,

loss of facial expression, and

visual hallucinations (seeing things that are not there). Usually people will see other people or animals that are not real.

Symptoms of frontotemporal dementia

Frontotemporal dementia is caused by damage to the parts of the brain that help control emotional responses and behaviour. Therefore, many of the initial symptoms of frontotemporal dementia involve changes in emotion, personality and behaviour.

Someone with frontotemporal dementia may become less sensitive to other people’s emotions. This can make them seem cold and unfeeling.

They may also lose some of their inhibitions. This could lead to strange behaviour, such as making sexually suggestive gestures in a public place, being rude to others or making tactless comments.

Other symptoms of frontotemporal dementia include:

aggression,

compulsive behaviour,

being easily distracted,

an increasing lack of interest in washing themselves, and

personality changes. A person who was previously withdrawn may become very outgoing, or vice versa.

Some people with frontotemporal dementia also have problems with language.

Symptoms affecting language include:

speaking far less than usual, or not speaking at all,

having problems finding the right words to express themselves, and

using many words to describe something simple. For example, saying ‘ a metal and wooden tool used for digging’ instead of ‘ a spade’

Causes of dementia

Vascular dementia

Vascular dementia is caused when there is an interruption to the blood supply to the brain.

Like all organs, in order to work properly the brain needs a constant supply of oxygen and nutrients that is provided by the blood. If the supply of blood is restricted or stopped, brain cells begin to die, resulting in brain damage.

The blood supply to the brain can become blocked during a stroke where either:

a blood clot blocks the supply of blood to the brain, known as an ischaemic stroke, or

a blood vessel becomes weakened and then splits. This is known as a haemorrhagic stroke.

Sometimes, less severe blockages to the brain do not result in a stroke, but they can damage the brain to a lesser extent. This is known as a silent brain infarction.

Not everyone who has had a stroke or a silent brain infarction will go on to get vascular dementia. But it always remains a possibility, particularly in people who have multiple strokes or silent brain infarctions.

Vascular dementia can also develop if the vessels inside the brain narrow and harden. Narrowing and hardening of the blood vessels is known as arteriosclerosis.

Know risk factors for arteriosclerosis include:

diabetes,

obesity,

smoking,

drinking too much alcohol,

lack of exercise, and

eating a high-fat diet

Dementia with Lewy bodies

Lewy bodies are small, circular lumps of protein that develop inside the brain. It is not known what causes them. It is also unclear how they damage

the brain and cause dementia. One theory is that they block the effects of two neurotransmitters called dopamine and acetylcholine.

Neurotransmitters are messenger chemicals that send information from one brain cell to another.

Both dopamine and acetylcholine are thought to play an important role in helping to regulate many important mental functions, such as memory, learning, mood and attention. Therefore, by blocking their effects, Lewy bodies may trigger dementia.

Frontotemporal dementia

Frontotemporal dementia is caused by two parts of the brain (the temporal lobe and the frontal lobe) becoming increasingly damaged and then shrinking.

In an estimated 40 to 50% of cases, people who develop frontotemporal dementia have inherited a genetic mutation (an altered gene) from their parents. These genetic mutations are thought to have a negative effect on a protein known as the tau protein.

All brain cells contain tau proteins. They help to keep the brain cells stable. However, if tau proteins stop working properly, they can damage brain cells.

If no genetic mutation is found, the causes of frontotemporal dementia remain unknown.

Less common causes of dementia

Dementia or dementia-like symptoms can have a number of less common causes, some of which are treatable. These include:

repeated injury to the head,

infections of the brain, such as meningitis or encephalitis,

Huntington’s disease, a rare genetic condition that causes progressive brain damage,

Creutzfeldt-Jakob disease (CJD), a rare and fatal condition that causes damage to the brain and nervous system,

an overactive or underactive thyroid gland,

dehydration,

lack of vitamin B in the diet,

poisoning, for example from lead or pesticides,

having a brain tumour, and

certain lung and heart conditions that interrupt the supply of blood and oxygen to the brain.

Diagnosing dementia

Confirming a diagnosis of dementia can be difficult, particularly when the condition is in its early stages. This is because many of the symptoms of dementia can be caused by other conditions.

In order for dementia to be diagnosed correctly, you should have a number of different tests and assessments including:

A review of your medical history.

A full assessment of your mental abilities.

A range of tests, including blood tests to rule out other possible causes of your symptoms, such as a vitamin B deficiency.

Imaging scans, such as a magnetic resonance imaging (MRI) scan, which can provide information about the physical state and structure of your brain.

A review of any medication you may be taking, in case these are contributing to your symptoms.

Some of these tests can be carried out by your GP. Others will be carried out by other specialists, such as a neurologist (an expert in treating conditions that affect the brain and nervous system) or a psychiatrist with experience in treating dementia.

Assessing your mental abilities

There are some questionnaires that can be used to help test your mental abilities and how severe your symptoms are. One widely used questionnaire is the Mini Mental State Examination (MMSE).

The MMSE can be used to assess a number of different mental abilities including:

short- and long-term memory,

attention span,

concentration,

language and communication skills,

ability to plan, and

ability to understand instructions.

The MMSE is a series of questions, each carrying a score that can give a maximum result of 30 points.

Example questions include:

memorising a short list of objects and then repeat the list back,

writing a short sentence that is grammatically correct, such as ‘ the dog sat on the floor’, and

correctly indentifying the current day of the week, followed by the date, the month, the season and the year.

While the MMSE cannot diagnosis dementia by itself, it is useful for assessing the level of mental impairment that a person with dementia may have.

A score of 25 or above is considered normal.

A score of 18 to 24 indicates mild to moderate impairment.

A score of 17 or below indicates serious impairment.

Ruling out other conditions

There are further tests that can be used to rule out other conditions that may be responsible for the patient’s symptoms. These tests are outlined below.

A full blood count

A full blood count can be used to assess your general health and check for a range of disorders, including anaemia and infection. A blood sample will usually be taken from a vein in your arm using a needle and syringe. The test will also check for other illnesses.

Blood glucose test

A blood glucose test can be used to determine whether your blood glucose level is normal, and can also determine whether you have diabetes. A blood sample is taken to rule out whether your symptoms might be caused by undiagnosed diabetes.

Urine analysis

Urine analysis is used to diagnose diabetes or problems with your kidneys. During the test, you will be asked to pass a small sample of urine into a sterile container.

Measurement of thyroid hormones

A measurement of your thyroid hormones may be taken in order to screen for thyroid disorders, including hypothyroidism (an underactive thyroid) and hyperthyroidism (an overactive thyroid).

Measurement of vitamin B12 levels

You may also have a test to check whether your symptoms are caused by a lack of vitamin B12. However, if you do have a B12 deficiency, it is still possible that you may also have dementia.

Imaging scans

Imaging scans can check if there are any underlying problems with your brain, such as a brain tumour, that could help explain your symptoms.

Imaging scans can also identify changes in the appearance of the brain that may indicate dementia. Several types of imaging scans can be used in the diagnosis of dementia. These are described below.

Magnetic resonance imaging

A magnetic resonance imaging (MRI) scan is the best way to rule out other brain problems, and to help diagnose the type of dementia.

MRI scans help doctors determine whether:

there is any shrinkage to the outer layer of the brain,

there is any evidence of changes to the blood vessels, or

there are any blood clots that might have resulted in vascular dementia.

The test will also show whether other conditions, such as a brain tumour, are causing your symptoms.

Computerised topography

A computerised topography (CT) scan can be used as an alternative to a MRI scan. A CT scan takes a series of X-ray images of your brain. The images are fed into a computer to build up a detailed 3D image of the inside of your brain.

Single photon-emission computed tomography

A single photon-emission computed tomography (SPECT) scan may be recommended if doctors are unsure whether you have Alzheimer’s disease, frontotemporal dementia or vascular dementia.

A SPECT scan is similar to a CT scan, but the scanner used for a SPECT scan is able to take moving pictures of the blood flow in your brain. The results show if the blood flow in your brain is abnormal, which can often be used to help diagnose the type of dementia.

Treating dementia

Your care plan

If you are diagnosed with dementia, your future health and social care needs will be assessed and a care plan will be drawn up. A care plan is a way of ensuring that you receive the right treatment for your needs.

Examples of questions that could come up while drawing up your care plan are listed below.

Do you have a family member or friend willing to act as a carer?

What support do you or your carer need for you to remain as independent as possible?

Are there any changes that need to be made to your home to make it easier to live in?

Would you benefit from physical and occupational therapy?

Do you need additional treatment and advice to help you cope with symptoms of incontinence?

Might you require residential care at some point in the future?

It is important to remember that this is your care plan. You should ask as many questions as you want and make sure that your wishes are known.

Patient consent and advanced directive

Patient consent means that you have to give express permission before any medical treatment can be carried out on you. Consent is needed for all treatments, whether it’s a simple blood test or an organ donation.

The only time when treatment can go ahead without your permission is if you are unable to make a decision on your own, and the doctors responsible for your care believe that treatment is in your best interests.

There may be a time in the future when your symptoms mean that you are no longer able to give consent.

Therefore, you may wish to draw up an advanced directive after first receiving a diagnosis of dementia. An advanced directive makes your treatment preferences known now, in case you are not able to do this later.

Subjects covered by an advanced directive can include:

what treatment you would consider having and in what circumstances,

what types of treatment you would never wish to have, no matter what the circumstances,

what type of end-of-life care you would wish to have, for example, whether you would want to be resuscitated by artificial means, such as having a breathing tube inserted into your neck if you have lung failure, and

whether you would be willing to donate organs after your death.

You cannot request anything illegal in your advanced directive, such as assisted suicide. Your care team will be able to provide you with more information and advice about advanced directives.

You may wish to appoint a friend or family member to take care of your financial and legal affairs. This is known as granting power of attorney.

See Useful links for information and advice about granting power of attorney.

Psychological treatments

There are a number of different psychological treatments that can be used to help you cope with the symptoms of dementia and slow down the symptoms. These are described below.

Cognitive stimulation

Cognitive stimulation involves taking part in activities and exercises that are designed to improve your memory, problem-solving skills and language ability.

It is provided by a trained carer, and usually consists of two 45-minute sessions a week. During these, you will be involved in discussions about a variety of topics, as well as taking part in word and memory games, and other activities, such as trying to identify pictures of famous people.

Behavioural therapy

Behavioural therapy is used to help treat many of the behavioural problems that are associated with dementia, such as depression, aggression and delusional thinking.

Behavioural therapy is usually provided by a carer, who can be a trained friend, relative or an employed carer. It is supervised by a health professional.

Behavioural therapy uses a problem-solving approach where possible motivations and reasons for troublesome behaviour are identified. Different strategies are adopted to try to change that behaviour.

For example, a person with dementia may have a history of wandering out of their home or care centre because they feel restless. Therefore, a strategy that involves encouraging them to take part in regular physical exercise may lessen their restlessness.

Reality orientation therapy

Reality orientation therapy is a type of therapy that reduces feelings of mental disorientation, memory loss and confusion, while improving feelings of self-esteem.

Reality orientation therapy may involve group work in a classroom, in which a board prominently displays information such as:

the current day and date,

the location of the classroom, and

the names of the people in the group.

The group members repeat a series of tasks that are designed to give mental stimulation. These tasks also reinforce information regarding the time, the place and the people involved in the group.

Multisensory stimulation

Multisensory stimulation is a way of stimulating the brain using different elements. These include lighting, relaxing music and sounds, massage cushions, aromatherapy (scents) and different touch sensations.

By stimulating different areas of the brain, multisensory stimulation aims to lessen feelings of confusion and restlessness, and improve mood and language skills.

However, this treatment is not suitable for everyone with dementia, as some people find the effects of stimulation upsetting and unpleasant.

Exercise therapy

Exercise therapy consists of either general fitness training or a structured fitness programme. It is designed to improve a person’s physical mobility, as well as benefiting mental function and mood.

Medicines

Acetylcholinesterase inhibitors

Acetylcholinesterase inhibitors (AIs) are widely used to treat Alzheimer’s disease. They are not usually recommended for other forms of dementia because the evidence for their effectiveness is limited and, in some cases, may make symptoms worse.

One exception is for people living with dementia with Lewy bodies that have behavioural problems, such as delusions or hallucinations, which are causing them significant distress or leading to challenging behaviour.

AIs work by preventing the breakdown of the neurotransmitter acetylcholine, as low levels of acetylcholine have been linked to behavioural problems.

Side effects include:

nausea,

vomiting,

diarrhoea,

muscle cramps,

fatigue,

loss of appetite,

agitation,

aggressive behaviour,

dizziness and fainting,

insomnia, and

urinary incontinence.

Antipsychotics

Antipsychotics are medicines that can be used to treat challenging and disruptive behaviour, such as aggression or agitation.

However, antipsychotics are not usually recommended for the treatment of dementia because:

they can increase the risk of a person experiencing cardiovascular diseases, such as strokes, and

they can make the symptoms of dementia worse.

Also, in people who have dementia with Lewy bodies there is evidence that antipsychotics can cause a range of serious side effects, such as:

rigidity,

immobility,

being unable to perform tasks,

being unable to communicate and, possibly,

sudden death.

Antipsychotics are usually only used in cases where there are severe symptoms of challenging and disruptive behaviour that is judged to place you and/or others at risk of harm. They are only used if there is a full discussion between yourself and/or your carer and your care team about the benefits and risks of treatment.

Antipsychotics will be prescribed at the lowest dose possible, and for as short a time as possible. Your health will also need to be carefully monitored if you are taking antipsychotics.

Side effects of antipsychotics can include:

drowsiness,

shaking,

trembling,

muscle twitches,

spasms,

weight gain,

blurred vision,

constipation,

lack of sex drive, and

a dry mouth.

Preventing Dementia

Preventing vascular dementia

While it is not possible to prevent all cases of dementia, there are some measures that can help prevent vascular dementia, as well as cardiovascular diseases, such as strokes and heart attacks. As experts in treating dementia often say, ‘ What is good for your heart is also good for your head.’

The best ways to prevent vascular dementia are:

Eat a healthy diet.

Maintain a healthy weight.

Get sufficient and regular exercise.

Drink alcohol in moderation.

Don’t smoke.

Diet

To help prevent dementia, a low-fat and high-fibre diet is recommended. This includes plenty of fresh fruit and vegetables (five portions a day) and wholegrains.

Limit the amount of salt that you eat to no more than six grams a day. Too much salt will increase your blood pressure, which puts you at risk of vascular dementia. One teaspoonful of salt is about six grams.

Avoid eating foods that are high in saturated fat because this will increase your cholesterol level, which also puts you at risk of vascular dementia.

Foods high in saturated fat include:

meat pies,

sausages and fatty cuts of meat,

butter,

ghee (clarified butter, often used in Indian cooking),

lard,

cream,

hard cheese,

cakes and biscuits, and

foods that contain coconut or palm oil.

Eating some foods that are high in unsaturated fat can decrease your cholesterol level. Foods high in unsaturated fat include:

oily fish,

avocados,

nuts and seeds, and

sunflower, rapeseed and olive oils.

Weight

Being overweight can increase your blood pressure, which increases the risk of vascular dementia. This risk is higher if you are obese.

The most scientific way to measure your weight is to calculate your Body Mass Index (BMI). This is your weight in kilograms divided by your height in metres, squared. In the UK, people with a BMI of between 25 and 30 are overweight, and those with an index above 30 are obese. People with a BMI of 40 or more are morbidly obese.

The best way of tackling obesity is to reduce the amount of calories that you eat, and ensure that you take regular and sufficient exercise. Your GP can give you further information and advice about how you can do this.

http://www. nhs. uk/Tools/PublishingImages/bmi_tease. gif

Exercise

Regular exercise will make your heart and blood circulatory system more efficient. It will also lower your cholesterol level and keep your blood pressure at a healthy level, all of which will lower your risk of developing vascular dementia.

For most people, 30 minutes of vigorous exercise a day, at least five times a week, is recommended. The exercise should be strenuous enough to make your heart beat faster, and you should feel slightly out of breath afterwards. Examples of vigorous exercise include going for a brisk walk or walking up a hill.

Alcohol

Drinking excessive amounts of alcohol will cause a rise in your blood pressure, and raise the cholesterol level in your blood.

Sticking to the recommended limits for alcohol consumption is the best way to ensure that you reduce the risk of high blood pressure, cardiovascular disease and vascular dementia.

The recommended daily levels of alcohol consumption are three to four units of alcohol for men, and two to three units for women. A unit of alcohol is equal to about half a pint of normal strength lager, a small glass of wine or a pub measure (25ml) of spirits.

http://www. nhs. uk/Tools/PublishingImages/do_you_drink_tease. gif

Smoking

Smoking can cause your arteries to narrow, which can lead to a rise in your blood pressure. It is also a major risk factor for developing cardiovascular diseases, cancer and vascular dementia.

The NHS Smoking Helpline offers advice and encouragement to help you stop smoking. You can call on 0800 022 4332 or visit the NHS Go Smokefree website (see Useful links).

Your GP or pharmacist will also be able to give you help and advice about giving up smoking.

Preventing other types of dementia

There is some evidence that rates of dementia are lower in people who remain as mentally and physically active as possible throughout their lives, and have a wide range of different activities and hobbies.

Some activities that may reduce the risk of developing dementia include:

reading,

writing for pleasure,

learning foreign languages,

playing musical instruments,

taking part in adult education courses,

playing tennis,

playing golf,

swimming,

group sports, such as bowling, and

walking.

There is no evidence that playing ‘ brain training’ computer games reduces the risk of dementia.

Dementia (souce, Bupa)

reventing vascular dementia

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