

Dementia

Author: Penny Abbington (specialist aged care nurse, Alice Springs)

Topic Reviewer: Dr Peter Tait

Definition

Dementia is a term used to refer to a group of symptoms that are the result of deterioration in intellectual functions – such as memory, language, and planning – and that is severe enough to hinder everyday activities and relationships.

Presentation

It is usually the carer or a family member who notices the changes and who then reports this to a friend, the doctor or the clinic. They will usually report that the changes have occurred over time. These changes are usually gradual and imperceptible at first.

Families will often compensate and will say things like 'grandma is getting forgetful' or 'it's just old age', but as the disease progresses the deterioration in function becomes increasingly obvious and more difficult to manage. The person with the dementia often does not have an awareness of their memory loss and impairment and subsequent deterioration.

Early stages

- Forget things that happened recently; forget names of family; forget what they want to buy from the shop
- Take longer to do things, forget how to dress, cook or do other things they used to do easily
- Wander around aimlessly not knowing where they want to go, or where they are or why they are there
- Don't sleep much at night any more, or wake up and wander around
- They say the same things over and over, or ask the same question again and again
- May talk about things that they shouldn't, or talk about people who they shouldn't mention
- May accuse people of stealing things that they have mislaid or lost, or things they only thought they had
- May have some problems with incontinence

Middle stages

- Memory getting worse, forgetting many things, even their children's names, or how many children they have
- Confusion gets worse, with them forgetting who they are or where they are or what they're doing there
- They may need lots of help now: to dress, undress, shower, go to the toilet, prepare food, eat food and drink water
- Increasing bouts of incontinence, including faeces, to becoming totally incontinent
- They may become emotional, get angry for no reason, or get upset and cry
- They may swear or say things that they culturally should not say or do
- They may talk a lot about when they were little and confuse those around them for their mother or brother or father

- They may just sit all day and do nothing, or they may get agitated and pace up and down or wander away
- They may shout out words that make no sense at all
- They may forget all language they learnt as an adult and go back to the language of their childhood

End stages

- Memory gets lots worse, remembering almost nothing at all about who they are or who family are
- They may find it difficult to talk, and when they do it may not make any sense at all
- They will need full assistance for all aspects of their health, hygiene and nutrition
 - May not be able to walk
 - Will most likely be incontinent of urine and faeces
 - They may just lie around not doing or saying anything

Causes

The three commonest causes of dementia are Alzheimer's disease, multi-infarct (or vascular) dementia and alcohol. The effects of these causes are by and large irreversible. Alzheimer's, in particular, gets worse over time.

There are also a number of other causes, some of which, if diagnosed and treated, are reversible. These reversible causes of dementia are: depression, central nervous system tumours, infections, organ failure, hypothyroidism, Vitamin B12 and folate deficiency, and medication or drug use. In order to eliminate the possibility of a reversible pattern of dementia a good picture needs to be painted of the person.

A thorough history needs to be taken from someone who has known the person over a period of time in order to get a complete picture of the progress of the disease. The doctor, nurse or health worker needs to ask about all the following things:

D drugs: what medications is the person taking, alcohol and other drug usage

E emotion: history of mental illness, mood swings or being depressed for a while

M metabolic/endocrine diabetes, thyroid function

E ears and eyes (senses) deterioration or loss of hearing and sight.

N nutrition: causing vitamin deficiency

T tumour/trauma

I infection: UTIs, pneumonia, etc.

A atherosclerosis/polyarteritis: inflammation and hardening of the arteries leading to poor blood flow to the brain

Then a cognitive assessment needs to be done to look at whether there has been any alterations to and deterioration in the way a person functions cognitively.

Cognitive assessment

The Mini Mental State Examination (MMSE)¹ can be used to assess cognitive function. It tests for orientation, registration, memory, language, construction, and ideomotor praxis. A score out of 30 is obtained, and a score less than 24 indicates significant cognitive impairment.

However, this test has major limitations for someone who does not have English as a first language, is unable to read, has impaired speech, sight or hearing, or has a non-English cultural background. Furthermore, it does not assess frontal lobe functioning. Nevertheless, it is a quick and useful way of assessing cognitive function. It is widely available.

Alternatively, one can ask or observe the following to assess cognitive function:

- Functioning: is the person able to perform independently their activities of daily living?
 - Conscious state: are they alert, or are they drowsy? Does their conscious state fluctuate during the course of the day? Are they awake at night and asleep during the day?
 - Attention and concentration: do they have difficulty attending to the interview?
 - Orientation: can they tell the day and date, where they are?
 - Memory: test short-term and long-term where possible, e.g. do they remember things that happened recently, such as a hunting trip or when pension day is? Can they tell you where they live, the names of their family? Do they remember the way to the shop or to a relative's place?
 - Language: some old people go back to language used in early years and may forget other language; can they name common objects e.g. shirt, collar, buttons, nose, nostril, watch, pen, etc.; can they write a sentence? Read? Repeat a phrase (such as 'No ifs, ands or buts'). Comprehend commands?
 - Arithmetic: ask them about change from buying something, use cards to count with etc.
 - Praxis: ask them to stand 'like a boxer', ask them to put on a jumper, ask them to copy a diagram of two intersecting boomerangs.
 - Agnosia: ask them to show you their thumb, index finger, ring finger; draw a number on the palm of their hand and ask them which number it is.
 - Reasoning: ability to plan and understand consequences e.g. how to prepare a meal.
 - Judgement: what they would do if bitten by a snake?
 - Emotions: any history of emotional change, such as depression, irritability, agitation, anxiety, or aggression.
 - Thought and perception: sometimes hallucinations and delusions are present.
- If the carer or person giving information tends to answer yes to the majority of these questions, then the chances are that the person ^{may have} dementia.

Investigations

If a dementia is suspected it is important to do investigations to see if there are any reversible/treatable causes of the dementia. Table 1 overleaf gives a list of tests that should be undertaken.

Differential Diagnosis

Depression and delirium can often mimic dementia. Table 2 overleaf highlights some of the differences.

Management

The main management issue in dementia is determining the special needs of the patient and deciding whether the family or community are able to provide for these needs. The types of care that a person with dementia may need might be: bathing and showering, toileting, dressing or undressing, cooking or eating food, communication, laundry, home help, gardening, firewood, taking medicines, social activities, ceremony.

Often, the family have been coping with the care of the patient for a long time but are now finding it more difficult to cope because the dementia has progressed. In such situations, a Community Aged Care Package funded by the Commonwealth Department of Health and Ageing can help a person with dementia to stay at home and in their community. Such packages pay money for specific services needed by the dementia patient.

To apply for such a package, the patient needs to be assessed by the Aged Care Assessment Team. Their phone numbers (prefix 08) are:

Alice Springs Urban	8951 6735
Remote	8951 7842
Tennant Creek	8962 4201
Katherine	8973 8503
Darwin Region	8922 7392
East Arnhem	8987 2860

The Aged Care Assessment Team can also organise respite for the dementia patient to give them or their carer a rest. This helps the person to stay in the community longer as the carer does not get too tired. Sometimes, the carer may be suffering from depression because of the stress of looking after somebody with dementia. In such cases, the carer will also need treatment.

In more advanced cases of dementia, where the sufferer requires 24 hour care, the only option is placement in a hostel or nursing home. Once again, the Aged Care Assessment Team will need to be contacted to organise this.

There are now drugs that are available to help delay the progression of Alzheimer's disease. They come from the class of medication known as Acetylcholinesterase Inhibitors. Three drugs of this class are currently available under the Pharmaceutical Benefits Scheme (PBS). They are: Donepezil (Aricept), Rivastigmine (Exelon), and Galantamine (Reminyl). To be eligible for the drug under the PBS, the patient needs a score of at least 10 on the MMSE.

Sometimes, the dementia sufferer will also be depressed, anxious, agitated, aggressive, or psychotic with delusions and hallucinations. In these situations, treatment with an antidepressant (e.g. Sertraline) or an antipsychotic (e.g. Olanzapine) may be necessary. Before doing this, it is important to rule out physical (e.g. pain, infection), communication (e.g. frustration at being misunderstood), or task-related (expecting them to do things beyond their ability) causes.

Table 1: Tests to determine possible cause(s) of dementia

Procedure	Potential findings
Full blood count	Infection, anaemia, myeloproliferative disease
ESR	Infection, tumour, autoimmune disease
Urea and electrolytes	Dehydration, renal failure, hypokalaemia hyponatraemia. Fasting blood glucose Hypoglycaemia, diabetes
Calcium and phosphorous	Parathyroid disorders, renal disease, malignancy
Liver function tests	Alcoholism, drug toxicity, liver disease
Thyroid function test	Myxoedema, thyrotoxicosis
Vitamin B12 and folate	Deficiency states
Serologic tests	Neurosyphilis, AIDS
ECG	Arrhythmias, evidence of ischaemia
Chest X-ray	Infection, carcinoma, granuloma, cardiomyopathy, other respiratory diseases leading to cerebral anoxia
CT scan brain with/without contrast	Diffuse or focal atrophy, infarcts, haemorrhage, tumour, hydrocephalus

Table 2: Clinical features of dementia, delirium and depression

	Dementia	Delirium	Depression
1. Onset	Insidious	Acute	Gradual
2. Duration	Months/years	Hours/days/??weeks	Weeks or months
3. Course	Stable & progressive(unless vascular dementia-usually stepwise)	Fluctuates – worse at night. Lucid periods.	Usually worse in morning, improves as day goes on
4. Alertness	Usually normal	Fluctuates	Normal
5. Orientation	May be normal – usually impaired for time and place	Always impaired Time Place Person	Usually normal
6. Memory	Impaired recent & sometimes remote memory	Recent impaired	Recent may be impaired Remote intact
7. Thoughts	Slowed Reduced interests Perseverate Delusions are common	Often paranoid & grandiose,? bizarre ideas topics, ? paranoid	Usually slowed, preoccupied by sad and hopeless thoughts
8. Perception	? normal	Visual & auditory hallucinations common. Delusions are common.	20% have mood congruent auditory hallucinations
9. Emotions	Shallow, apathetic, labile	Irritable Aggressive Fearful	Flat, unresponsive or sad& fearful. May be irritable.
10. Sleep	Often disturbed. Nocturnal wandering common. Nocturnal confusion.	Nocturnal confusion	Early morning waking
11. Other features		Other physical disease may not be obvious	? past history of mood disorder

Source: Dementia Services Development Centre, Dementia Touches Everyone: a Guide for Trainers and Trainees in General Practice. University of Stirling, Scotland. Minor modifications made to original table.

Other issues that need to be considered over the course of the dementia

- Psychological: addressing issues of loss, grief
- Family concerns about genetic vulnerability
- Physiotherapy: help with walking
- Occupational therapy: memory aids, ramps, wheel chairs, showering aids, special eating utensils
- Continence: help for bedwetting
- Legal: power of attorney, guardianship and administration order, will
- Driver’s licence: cancellation if driving considered to be dangerous

Reference

1. Folstein MF, Folstein SE, McHugh PR. 'Mini-Mental State': A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research* 1975; 12:189-98.