Assessment of People with Memory Symptoms

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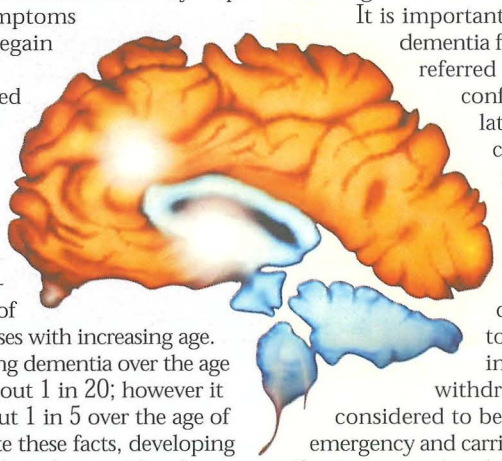
This article forms part of a series of articles dealing with the management of people presenting with symptoms suggestive of dementia. They are directed in particular to primary care professionals and serve to highlight some important principles and newer approaches that are being recommended. This first article in the series will focus on the initial assessment at the presentation stage whereas in the second article, some important points on the management of behavioural and psychological symptoms will be highlighted.

Dementia is a term that refers to those disorders of the brain that result in progressive impairment of brain functions such as memory, language, judgement and thinking. Dementia affects the ability of the person to function and creates difficulties in performing familiar and previously known tasks, eventually even impairing the person's ability to take care of oneself. The commonest cause of dementia is Alzheimer's Disease, accounting for some 50 - 60% of all cases of dementia. Other common conditions resulting in dementia are Vascular Dementia and Lewy Body Disease. There is currently no definite cure from dementia, but treatment is now available that may help some of the symptoms and may help regain some abilities, delaying the need for nursing home care.



The single most important risk factor for dementia is age - the prevalence of dementia increases with increasing age. The risk of having dementia over the age of 65 years is about 1 in 20; however it increases to about 1 in 5 over the age of 80 years. Despite these facts, developing dementia should not be considered as an inevitable result of growing older. In an effort to invite early recognition of the symptoms and signs of dementia, the Alzheimers' Association has set up a fact sheet explaining the different presenting symptoms that many be experienced by people with dementia. It is important that these symptoms are not taken as if it is '*what to expect at this age*'. Each case merits appropriate assessment and investigation in order to identify potentially remediable causes and to confirm the diagnosis. Patients and their families will need appropriate advice and support if a diagnosis of dementia is made.

The initial assessment of a person presenting with memory symptoms primarily entails a good and comprehensive medical history and physical examination. It is important to identify when symptoms had started and how these have progressed over the subsequent months. Alzheimer's disease has an insidious onset and the condition advances progressively and slowly over months to years. Vascular Dementia classically advances in a stepwise fashion. The aim of the initial assessment is to identify any physical or psychiatric condition that may present similarly as or may be mistaken for dementia. There are many physical conditions that may be recognised on careful examination.

It is important to distinguish dementia from delirium, also referred to as an acute confusional state. The latter is usually caused by an acute medical illness example, myocardial infarct, or infection or else can be secondary to drug or alcohol intoxication or withdrawal. Delirium is considered to be an acute medical emergency and carries a high mortality if not managed and treated appropriately. A cranial space occupying lesion may also cause a confusional state but the history here follows a shorter course.

The differential diagnosis for someone presenting with a dementia syndrome also includes psychiatric conditions. In particular, patients should be screened for the possibility of depression. The psychomotor retardation that may accompany depression may be difficult to distinguish from dementia. However with experience, the physician will be able to distinguish the 'negative' responses of a depressed person from the inappropriate replies of a person with dementia. However, it is important to note that depression may coexist with dementia as both of these conditions are common. In this case, a trial of antidepressant therapy is warranted as patients respond well to treatment. Hypothyroidism may cause a gradual deterioration in mental function and can also lead to psychiatric symptoms and thus needs to be excluded.

Another aspect of the assessment is to scrutinize and review the current medication. Older people are susceptible to polypharmacy because of their multiple pathologies and failure to keep off unnecessary medication. They are more susceptible to adverse side effects of drugs due to altered pharmacodynamics and pharmacokinetics and more prone to drug interactions. There are many drugs that can precipitate confusion or worsen cognitive decline in the elderly. Hyponotics, sedatives and psychotropic drugs should be prescribed with caution, and if really necessary, should be given in the least possible dose that controls symptoms. Anticholinergic drugs which are sometimes used to treat Parkinson's disease or to control drug-induced parkinsonism are nowadays less favoured because of their adverse effects. It is important to realise that anticholinergic effects may also result from the use of other drugs such as tricyclic antidepressants, antihistamines (often prescribed for their hypnotic effects) and certain classes of analgesics.

The Mini-Mental State Examination is a useful tool in determining the severity of the cognitive decline and to provide a baseline with which to compare and measure the effect of interventions and treatment. Other assessment tools are frequently administered to assess behavioural symptoms, functional ability and caregiver stress.

This comprehensive assessment also serves as an opportunity to identify any underlying and unrecognized physical problems. In geriatric medicine, it is very common for patients not to seek treatment for their disabilities because they perceive these as normal for their age. Screening and management of problems associated with vision, hearing, gait and continence contribute a lot to improving the quality of life and to restoring functional ability.

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The initial assessment of a person presenting with a dementia syndrome continues with blood investigations and imaging to exclude secondary and potentially reversible causes. These should include a complete blood picture, erythrocyte sedimentation rate, electrolyte and renal function tests, liver function tests, serum calcium, thyroid function tests, serum Vitamin B12 and folate levels. A CT scan of the brain is indicated to exclude a space occupying lesion or to detect features of a normal pressure hydrocephalus. A SPECT scan is particularly useful to see whether decreased tracer uptake is diffuse or focal. In vascular dementia, it is possible to identify a patchy loss of tracer uptake corresponding to the ischaemic regions. MRI and functional imaging techniques e.g. functional SPECT are becoming increasingly used in specialised centres.

Although there is no definite cure for dementia, the availability of specific anti-dementia drugs such as the cholinesterase inhibitors rivastigmine and memantine can lead to improvement in cognitive function and symptomatic improvement, thus delaying the need for institutionalization. Dementia care has become a specialized subject, necessitating the collaboration of the primary care team and specialists in geriatric medicine, neurology and psychiatry. Education, training and support of persons with dementia and caregivers, but also of healthcare staff constitute a major area in need of attention if we are to face the challenges that lie ahead.

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Congestive Cardiac Failure

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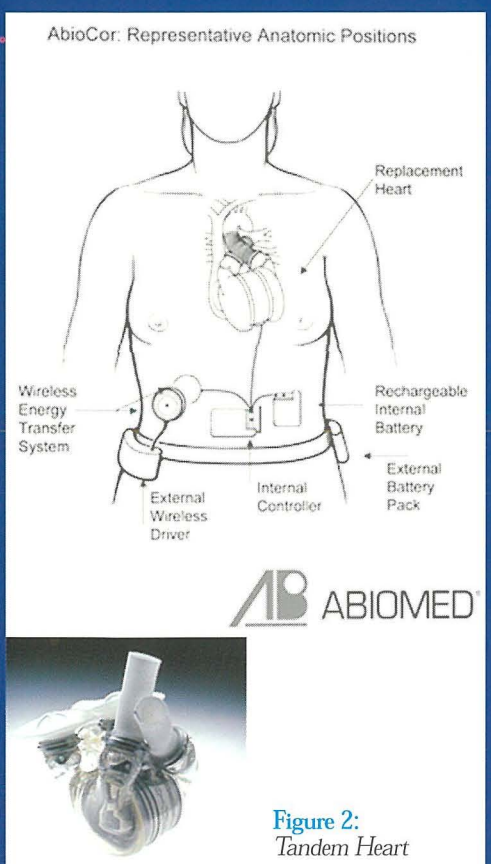

Figure 2: *Tandem Heart*

Another device is the 'Tandem Heart' (Figure 2) which is an external pump which through percutaneous catheters (one placed through the femoral vein, across the atrial septum into the left atrium, the other into the femoral artery) 'sucks' oxygenated blood out of the left atrium and pumps it into the femoral artery.

The lack of donors has also stimulated the development of artificial hearts – the most established of which include the 'Jarvic' heart' and the 'AbioCor' heart' (Figure 3). Both these amazing mechanical hearts require the patient to be constantly 'connected' to an external power source. This considerable limitation has encouraged research into the possibility of using pigs as heart donors. The porcine heart is very similar to the human one and if the problem of rejection can be overcome it promises to be of significant clinical value. With this in mind a colony of genetically modified pigs has been grown. These have been genetically engineered so that the human body will not recognise their hearts as being 'incompatible'.

I'll leave you with a sobering thought. There is some evidence that cardiac transplant recipients can show behaviour signs of their dono...gives a new dimension to the phrase 'making a pig of oneself'!

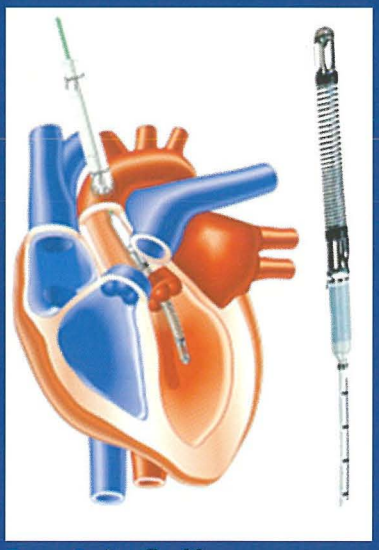

Figure 3: *AbioCor Heart*