Memory clinics provide an ideal platform for early initiation of treatment, patient and carer education and access to appropriate information, write Dr Rónán O Caoimh and Prof D William Molloy

As the Irish population ages, the prevalence of dementia is set to rise, from 37,900 in 2006\(^1\) to 100,000 by 2036.\(^2\) This raises questions about how to manage people presenting with memory problems. Memory clinics have been developed to answer these concerns. The earliest prototypes emerged in America in the early 1980s, reaching Ireland in 1991. Memory clinics are specialised clinics focusing on identifying, investigating and managing memory disorders, including dementia.\(^2\) Focus on early stages of cognitive impairment allows prompt management and is considered a hallmark characteristic of memory clinics.
Referral

Memory clinics see patients across the spectrum of memory problems, from normal ageing where individuals report memory loss but cognitive tests are normal, to mild cognitive impairment (MCI), a clinical syndrome characterised by demonstrable cognitive impairment without loss of function, to dementia. Acceptance criteria vary between clinics, but early referral is desirable. Patients, many of whom may feel that they have no significant problem, may feel anxiety at being referred to a specialist clinic.

However, the benefits of prompt diagnosis outweigh this concern and patients should be reassured of the precautionary nature of referral. Memory clinics also provide reassurance to those worried about memory loss with normal cognition. New presentations of advanced dementia should be referred if the diagnosis is uncertain. Patients with established dementia with challenging behaviours are usually not accepted and are often redirected to the old age psychiatry team.

Memory clinics usually accept referral directly from GPs or other physicians. A small number of appointments are usual, allowing time for comprehensive assessment. A waiting period of three months has been observed in Ireland.3 Referral should ideally be made after screening for depression and initial blood work, provided this doesn’t cause unnecessary delay.

Alternative causes

The exclusion of reversible causes, found in 13%4 and 20%5 of referrals, is paramount. The most common, primary reversible causes are depression followed by hydrocephalus and alcohol dependency, all more likely in younger patients.

Where patients have symptoms suggestive of dementia (progressive cognitive and functional impairment), a reversible cause is found in less than 5%.6 Individuals with self-reported memory loss are the most likely to have reversible cognitive impairment. Prevalence of normal cognition varies, with 4% in Ireland7 and up to 50% in the US.8

Delirium, a common cause of new onset cognitive impairment, is an infrequent cause of memory problems in memory clinics.8 Four cardinal features: history of recent onset, fluctuating confusion, inattention, disorganised thinking and altered consciousness, included in the Confusion Assessment Method (CAM) test,9 help distinguish delirium from dementia.

Screening tests

A diagnosis of dementia is made after clinical deliberation using evidence-based criteria like DSM IV.10 No defined criteria yet exist for mild cognitive impairment (MCI). Instead, it is based on a subjective history of recent memory impairment without obvious loss of social or occupational function.11 A collateral history is important in making the diagnosis. Depression is usually screened with the Geriatric Depression Scale.12

The AB Clinician Depression Screen (ABCDS),13 is a shorter, equally valid, five-question screen.

The most widely used dementia screening tool is the MMSE14 or the more reliable, standardised SMMSE.15 These short screening tests are quick and effective in general practice,16 but are less able to differentiate MCI from normal cognition and dementia.11 The Montreal Cognitive Assessment (MoCA),17 and the recently published Quick Mild Cognitive Impairment (Qmci) screen11 have been shown to be more sensitive and specific in identifying MCI.

Patients with suspected frontal lobe pathology can be tested with a clock drawing test18 or the Frontal Assessment Battery (FAB).19 Dementia severity is graded clinically using tools such as the Clinical Dementia Rating scale (CDR),20 not with screening tools like the MMSE.

Assessment and treatment

In the memory clinics, a range of different service models have been developed, but all provide similar functions including assessment, monitoring, audit, training and research.21 In the UK, the delivery of memory clinics are driven by standards set out in the National Service Framework for Older People.21,22 In Ireland, they will likely be
guided by the emerging National Dementia Strategy. All persons referred to a memory clinic require a thorough review of their medical, psychological, functional and social status. Clinics are led by a consultant psychiatrist or geriatrician and usually have access to specialised assessments conducted by speech and language therapists, occupational therapists and clinical psychologists. Routine investigations include blood tests (electrolytes including corrected calcium, haematins, glucose, liver and thyroid function tests, and full blood counts), an ECG, prior to starting potentially cardiotoxic medications and when indicated a CT scan.

Most management at a memory clinic is non-pharmacological. When a diagnosis of dementia is made, depending upon the stage of progression and the extent to which a patient or their family accept the diagnosis, advice and literature can be provided regarding creating a will, an enduring power of attorney, advanced care directives and accessing group or home supports. If the individual drives, the issue needs to be discussed and if concern is raised, referral made for an on-road driving assessment, usually by an occupational therapist. Assessment in the clinic alone is insufficient to determine driving proficiency.

Pharmacological treatment varies depending on stage and aetiology. Cholinesterase inhibitors are the mainstay, but are limited by efficacy and side-effects, gastrointestinal (up to 25%) being more common than cardiovascular (1-10% dizziness and syncope, arrhythmias, < 1%). Differentiating between dementia and MCI is important, as treatment choices differ. Patients with dementia benefit from cholinesterase inhibitors, while those with MCI do not have a sustained response.

All stages of dementia have been shown to have a modest benefit from these medications. The newer agent, memantine, an N-methyl-D-aspartate receptor antagonist, is more useful in advanced dementia, especially with cholinesterase inhibitors.

Role of caregivers
Family members and caregivers are often asked to report on patients' behaviours, mood, cognitive and functional status. Standardised tools, such as the screening version of the Zarit Burden Interview or AB Caregiver Burden Score, given in advance of appointments assess caregiver burden, provide valuable collateral and help monitor change over time. Carers and families play an important role in ensuring compliance with medications, co-ordinating home supports and legal matters.

Follow-up
Memory clinic assessment is usually completed over a short period before patients are discharged back to their primary physician. Some patients are followed for longer where the diagnosis is uncertain or close monitoring is desirable, such as MCI.

GPs have an important role in monitoring adverse medication side-effects. If patients develop side-effects or dementia progresses, whereby risk is felt to outweigh benefit, cholinesterase inhibitors can be tapered over two to four weeks, but should be restarted if the patient worsens.

Conclusion
Memory clinics provide a diagnostic and assessment service for individuals complaining of memory problems. They provide an ideal platform for early initiation of treatment, patient and carer education and access to appropriate information. Early recognition and referral is crucial to allow patients benefit from memory clinics. The ageing population and expected increase in dementia means that there is an urgent need to expand and develop a memory clinic network in Ireland.

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References on request