

Screening for dementia in primary care

The primary care physician is in a strong position to detect dementia in a timely fashion. A monolithic model of memory assessment and diagnostic disclosure neglects the wide range of individual needs and presentations but primary care in collaboration with specialist memory services should strive to provide a tailored approach. The World Alzheimer Report 2011 champions early diagnosis on the principle that timely intervention both medical and psychosocial, improves outcomes and saves money.¹

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The literature on the diagnosis of dementia in primary care has been summarised in a meta-analysis² that indicated that GPs recognise three in four patients with dementia using clinical judgment alone whilst highlighting the three main difficulties for GPs conducting dementia screening:

1. The relatively low prevalence rate only reaching above 30% in the “oldest old” (85 plus) and perhaps as low as 6% in over 50 year olds attending GP surgeries. This means that cursory screening procedures would lead to unacceptable rates of false-positive diagnosis.
2. A gradient of difficulty in identifying dementia leading to false-negative results—mild disease being easier to miss than more severe—resulting in failed opportunities to intervene early.
3. A reluctance to formally record a clinical impression of dementia.

What tests to use?

To improve upon clinical judgement a plethora of tests for screening dementia in primary care are available. The Mini-Cog and 6-CIT take less than 10 minutes to administer and may be particularly useful in early identification.³ The GPCOG has become popular and includes both testing of the patient and an informant questionnaire: the latter minimising the bias that premorbid intellectual achievement can introduce into testing of the patient.⁴

Of course, all screening tests must be interpreted in the light of potential confounding factors including physical and sensory impairments, premorbid educational achievement, mood, motivation and culture. None of these tests are diagnostic and a diagnosis of dementia must be founded upon a patient and informant history and assessment of the relation of physical morbidities to the mental state.

When to test?

Routine screening is unlikely to be effective because those who do not complain of symptoms are unlikely to co-operate.⁵ Cognitive testing should be prompted by a clinician, which may be expressed by a carer rather than the patient. Explaining why cognitive testing is thought appropriate will require skilled negotiation if the patient is denying or minimising their impairment.

Multimorbidity

The expansion of mental healthcare within general hospitals has become imperative and stands to identify more people for whom dementia may only represent a component of their impairment of function. Recognising these patients within general practice, before acute care becomes necessary, is likely to be advantageous to all concerned, because alternatives to hospital care in the event of clinical and

social contingencies can be sought. Beyond assisting accurate diagnosis, mental health services may have little to offer these people who will need extensive care planning surrounding their physical health whilst taking into account their cognitive impairments. Unfortunately, the physical care issues can readily overwhelm the busy clinician, leading to underestimation of mental vulnerabilities. At the same time, the optimisation of vision and hearing and appropriate physical care may well improve mental function, thereby reducing the risk of a false-positive dementia diagnosis.

Staging of dementia

A diagnosis of dementia is only useful when allied to some idea of the level of function and risk. Staging can provide a useful summary: mild (help required in tasks outside the routine), moderate (help required in routine tasks) and severe (complete dependence upon others for personal care) and there is correlation between stage and cognitive performance on formal tests.⁶ However, there is no substitute for a brief, multidimensional formulation of the patient's problems encompassing the domains of physical, psychological (including premorbid personality) and social factors. The primary care physician is often in a good position to integrate biographical and social factors within medical decisions.

Severe stage

The most potent risk factor for delirium bar the physical

disturbance that precipitated it, is an underlying dementia,⁷ which prior to the delirium may have been of mild severity. The effects of delirium may take many months to improve whilst one fifth of elderly sufferers will still be experiencing persistent delirium at six months after discharge from hospital. It is therefore important to bear in mind the rehabilitation potential of the patient who has suffered delirium and to not conclude prematurely that the stage of severe dementia has been irreversibly reached.⁸

Is it dementia at all?

Distinguishing age-related cognitive decline from the pathological process represented by dementia is a fraught area where there is little consensus. In the 1980s the term, age-associated memory impairment found currency but was criticised for categorising most of the population of people over 50 years as experiencing a potential dementing process.⁹

The work of Petersen during the 1990s in delineating the entity he describes as mild cognitive impairment (MCI) has had the greatest impact over the last 15 years. His Mayo criteria comprises:

1. The patient should complain of memory problems ie. subjective impairment.
2. Activities of daily living should be normal.
3. Normal general cognitive function.
4. Abnormal memory for age.
5. The patient is not demented.¹⁰

Unfortunately each criterion is problematic:

1. Should the patient complain spontaneously or does an

elicited complaint count? Obviously, this criterion misses any patient who is in denial of their memory deficits.

2. How should activities of daily living be measured? A crucial consideration is whether the patient is losing skills relative to their premorbid function. Informant history tools can be particularly enlightening in this regard.
3. How far should general cognitive function be investigated and should results be corrected for age and educational status? Brief investigations may miss a dementing process.
4. Determining abnormal memory for age requires age-standardised testing—not readily available in general practice.
5. A number of criteria exist for dementia so agreement is needed as to which are being used.

Is MCI a valid diagnosis?

Notwithstanding the uncertainties in reaching a diagnosis, is MCI a valid concept? If it represents a border territory between normal ageing and dementia do sufferers proceed inevitably to dementia and at what rate? Research has provided widely differing results depending on the sampling frame: specialists centre identifying patients who are more likely to convert to dementia than studies of MCI in the general population (10% per year compared to 5% per year).¹¹ Furthermore, MCI may revert to normality: an example being a community study by

Fisk et al who demonstrated that MCI put sufferers at high risk of conversion to dementia but, after five years, one third were deemed to have no cognitive impairment.¹² In another community study, MCI represented a heterogeneous set of outcomes by whatever definition of it was used but higher burdens of subtle cognitive deficit predicted conversion to dementia.¹³ We have therefore now reached a tautologous state of affairs: the more like a dementia patient you are, the more likely your MCI will progress towards dementia.

MCI and driving

Of course, dementia in a driver is a notifiable condition but the DVLA's attitude towards MCI seems to reflect the nebulousness of the concept. The "at a glance" guide states that notification is not necessary if MCI is not accompanied by impairment of cognition or function thereby characterising the condition as purely one of subjective impairment¹⁴—in contradiction to the Mayo criteria.

Is treatment available for MCI?

No treatments are licensed for MCI. Petersen's study of the cholinesterase inhibitor donepezil in MCI showed that it delayed conversion to dementia at one year compared to placebo but by three years had had no effect.¹⁵ A similar study of another cholinesterase inhibitor, galantamine, showed no benefit at two years.¹⁶ Amyloid deposition occurs early in the course of Alzheimer's¹⁷ and a major study is underway examining the influence

of anti-amyloid immunotherapy on the course of MCI.¹⁸

Does the busy GP have the resources to detect those MCI patients who are at highest risk of conversion? Even in secondary care attempts to improve predictive accuracy of a diagnosis of MCI have been far from conclusive. Serial MRI scanning has led to a self-evidential conclusion: the faster the hippocampi are shrinking, the worse the cognitive decline.¹⁹ Positron emission tomography has indicated that amyloid deposition may be an early feature of the Alzheimer process but this investigation is only available in tertiary centres.¹⁷ Levels of tau and amyloid protein in the cerebrospinal fluid may predict conversion to dementia but over a 10 year timescale.²⁰

The concept of MCI may therefore prove to be a distraction on the path to better identification of dementia.

A pragmatic solution?

Petersen acknowledges that cognitive testing is most valuable when it demonstrates a change in function but few patients will have been exposed to serial cognitive tests. He states that the key reason for placing the patient's subjective complaint of a memory problem at the forefront of his criteria for MCI, is that the diagnosis should be based upon a decline in performance. Ideally, an informant history will be available but if not, the question: "Are your memory problems leading to comments from the people who know you well?" can be illuminating. Of course, the primary care team may be in a good position

to detect changes in function: missed appointments, repeated phone calls on the same topic, poor medication concordance.

Other considerations are:

- Is there a family history of dementia?²¹
- Does the patient have vascular risk factors? These predispose to both Alzheimer's and vascular dementia.^{21,22,23}
- Be aware that brief cognitive testing, especially in those of high intellectual achievement, may be misleadingly reassuring.
- If addressing morbidities that might be affecting cognition (depression, anxiety, anticholinergic medication, hypothyroidism, poorly-controlled diabetes etc) fails to improve the situation, referral to secondary care should be considered.

Conclusion

The term "dementia" still carries pejorative connotations and therefore GPs may fail to record the diagnosis formally despite tacitly recognising the impairment of the patient. Although diagnosis is important, it should be recognised that dementia is a syndromal construct—a convenient shorthand used by clinicians—and if patients and/or carers give indication of being unable to accept this terminology, this does not mean that a comprehensive assessment of need cannot take place.

Conflict of interest: I have received speaker fees from Lundbeck and Pfizer

References available from www.gmjjournal.co.uk