

LANCASTER MEMORY CLINIC ANALYSIS OF REFERRALS 2001-2003 AND EVOLUTION OF THE CLINIC 2003-2005

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The Lancaster Memory Clinic was instituted in 1997, following the licensing of the anticholinesterase drug donepezil. The original purpose of the clinic was to identify early dementia so that patients could be started on anticholinesterase treatment before skills were lost, and could therefore obtain maximum benefit from it. The Journal reported initial experience of anticholinesterases in 2002⁽¹⁾.

Mary Ann Watts-Tobin and Yashwant Shukla describe the evolution of the clinic since that initial report.

INTRODUCTION AND RATIONALE

The Lancaster Memory Clinic was originally designed to function alongside the normal outpatient clinic, and referrals of patients with mild or doubtful memory problems were sought from primary care. In its initial form, simple testing of cognitive function was performed in primary care using the Mini Mental State Examination (MMSE)⁽²⁾ and Abbreviated Mental Test (AMT)⁽³⁾, and referral to the clinic was indicated for those scoring over 20 out of a maximum 30 points on the MMSE. Such preparation prior to referral is no longer universally available, but the clinic continues to welcome referrals with possible memory problems.

MEMORY FAILURE AS A SYMPTOM OF DEMENTIA

The diagnosis of dementia early in the course of the illness is difficult. It must not be confused with early onset dementia, which is dementia occurring in the presenium (ie before 65 years of age). Except for the rarer dementias such as those relating to the frontal lobe, dementia presents with short term memory failure and not with behavioural problems, episodes of acute confusion or domestic incompetence. Early diagnosis is suggested by a history of general forgetfulness, losing things, repetitive questions, poor recall of recent events and inability to understand and adapt to new situations. People who work in professions or in organisations lose their mental sharpness and become unable to perform at their optimum level. A falling-off of any activity in which the person was previously more competent may suggest early dementia and those aware of this deterioration may show increased anxiety and/or depression. Their scores on cognitive tests may fall below the cut off normally recognised for diagnosing dementia in the average elderly population and support the clinical diagnosis suggested by the history. Where patients with higher than average premorbid intelligence quotient (IQ) perform better on cognitive testing (in spite of a history of memory failure), the cut off score for dementia must be adjusted to a higher level. Access to a neuropsychologist (a psychologist who

specialises in detailed psychometric testing) is especially valuable in these cases and where perceptual problems distort test results, and for all patients presenting in the presenium. There are usually no biological markers to assist in the diagnosis of dementia at an early stage; electroencephalograph (EEG) changes and neuroradiological findings are not sufficiently consistent to assist the diagnosis. Long term studies following up patients from diagnosis to post mortem have shown that the accuracy of the initial differential diagnosis is only about 80%, and bearing this in mind, we use the phrase 'probable' Alzheimer-type dementia. Some studies have delineated a transitional state between normality and Alzheimer's disease called 'Mild Cognitive Impairment'. In this, patients have short term memory deficits outside the norm for their age and education on testing, and these studies have found them to be at greatly increased risk of developing dementia within one year⁽⁴⁾ and this risk continues yearly. However, this condition is not universally accepted.

DEMENTIA: THE CASE FOR EARLY RECOGNITION

The potential advantages of early recognition of dementia go well beyond access to anticholinesterase therapy. They include access to knowledge and information about the condition to allow forward planning. This may cover social and financial arrangements, risk assessment, and packages of care to support the individual. Further information can be given about support services which will be available when needed, such as specialist psychiatric teams and help from voluntary organisations like the Alzheimer's Society and Age Concern. They also include access to advice about driving, exercise and diet, use of memory aids such as diaries and notice boards and maintaining mental alertness: among suitable activities, crosswords, scrabble and even Su Doku have been recommended! Patients developing vascular-type dementia or mixed dementia will benefit from advice about weight gain, cessation of smoking and monitoring of blood pressure and cholesterol levels.

METHODS OF STUDY

We have included all patients referred in the two-year period October 2001 to September 2003. Two patients refused to attend and were not seen. Patients suitable for anticholinesterase treatment were offered it and asked to give written consent witnessed by a relative or carer. In the clinic, we use CAMCOG (the cognitive and self-contained part of the Cambridge Examination for Mental Disorders of the Elderly), a well-recognised and useful test developed for the diagnosis of dementia in the elderly in the United Kingdom. It is much more broad-ranging than the MMSE and is a much

more sensitive measurement of cognitive decline⁽⁵⁾. It is scored out of 105 and takes about 30-40 minutes to complete. The normal cut off for diagnosing dementia is 80/81. The assessment process in clinic was described in detail in an article by one of the authors (YPS) published in 2003⁽⁶⁾.

Briefly, the assessment process involves:

- preliminary blood screening to rule out treatable causes of memory problems
- history taking from patient and informant separately
- formal cognitive testing and use of scales to identify depression and track difficulties in activities of daily living
- additional investigations as necessary such as EEG, computerised tomography (CT) scan, further neuropsychological testing by a psychologist
- achievement of the differential diagnosis based on the foregoing

RESULTS OF THE STUDY

Over the two-year period 110 new patients were seen and we analysed these referrals by:

- source
- age and sex
- cognitive test scores
- diagnosis
- treatment
- side effects of treatment

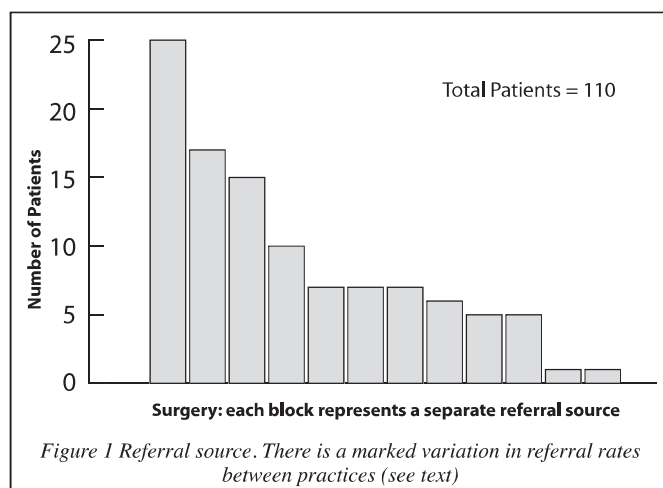
The purpose of this analysis was to:

- look at the incidence and character of dementia presenting in the local population
- understand what practices were referring
- gain experience of the benefits of, and problems associated with, anticholinesterase drugs in ordinary clinical practice
- measure potential work loads for future planning of the clinic

DISCUSSION OF RESULTS

Referral source

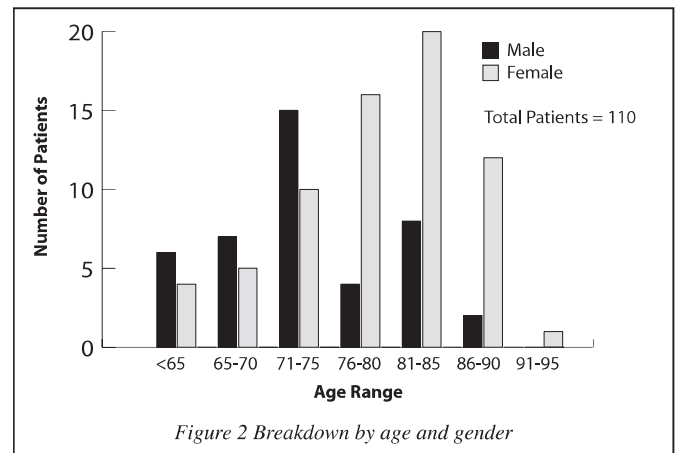
The referral source histogram (figure 1) shows a wide variation (x5) in the number of referrals over the study period



between inner city Lancaster practices. Large practices outside the city of Lancaster have access to other memory clinics and refer relatively few patients. Practices with historic staff links with the old Lancaster Moor Hospital, on the other hand, made much more use of the clinic.

Age and gender

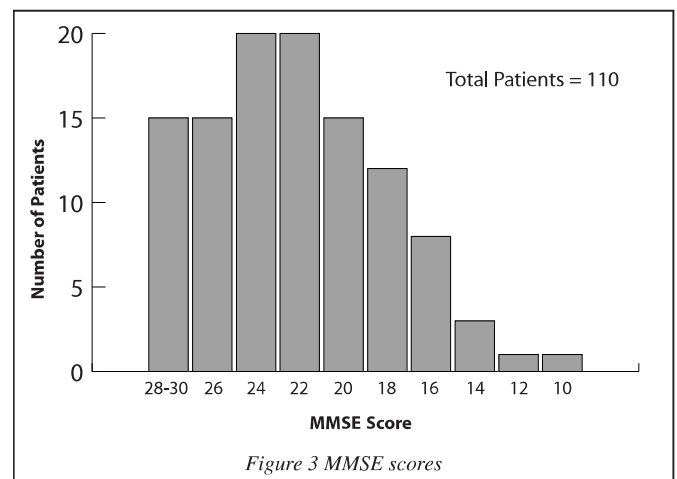
A total of 68 females and 42 males were referred. The age and sex histogram (figure 2) shows males preponderating in the age slots between 65 and 75, but females greatly outnumbering males in age slot over 75 years. We noticed



from the clinical records that males referred had more physical problems such as cardiac disease, chest or digestive problems, and decisions about suitability for anticholinesterase therapy were more difficult to make because of this. During the study period, research showed the effectiveness of anticholinesterase therapy in mixed Alzheimer/vascular dementia as well as in pure Alzheimer's disease, and we altered our practice to reflect this. Ten patients under the age of 65 were referred during the study period, and this group is of particular interest since planning services for younger patients with dementia within the Morecambe Bay Primary Care Trust (MBPCT) area is currently underway. Young patients with dementia do not fit in well with services provided for older sufferers.

MMSE scores

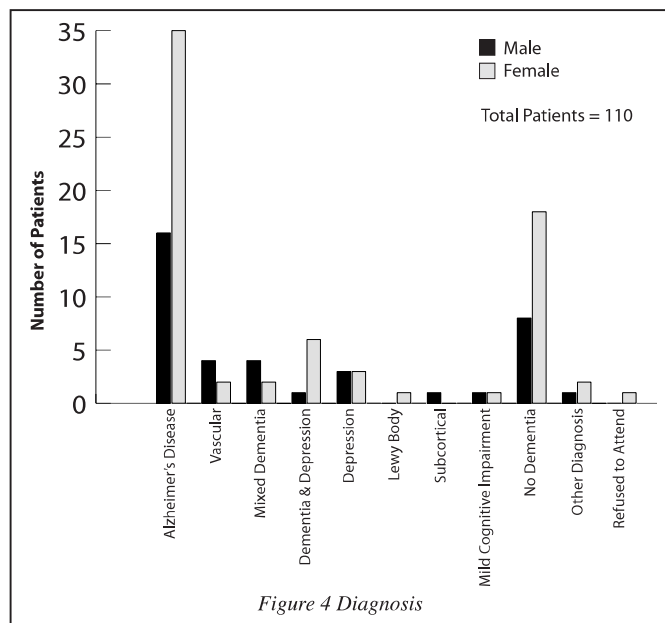
Figure 3 shows MMSE scores obtained in the clinic. Clearly, the great majority of patients were scoring above 20/30 and were appropriate to further testing at the clinic. Some patients, however, were inappropriate for the clinic, in that



their scores were under 20 out of 30 and this occurred where there was a difference in scores obtained by the primary care team and the clinic team, or when no preliminary testing by the primary care team had taken place.

Diagnosis

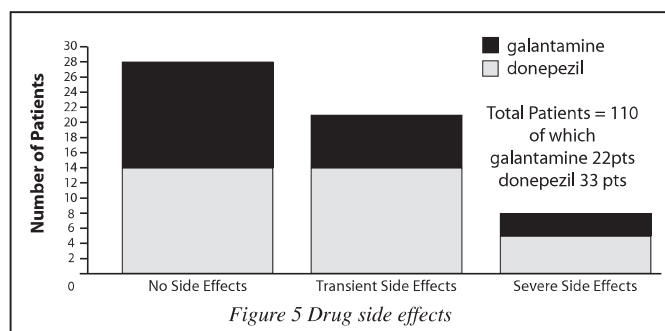
The most common diagnosis (figure 4) was probable Alzheimer's disease; 25% of patients were diagnosed as having insufficient evidence of dementia. This might reflect a tendency to refer more patients with subtle memory problems from some practices. If we were uncertain, patients were booked for re-assessment after nine months when repeat scores and history could be compared with baseline findings made at the first assessment. A small group of patients was found to be suffering from depression only. Depression can present with poor memory, general mental slowness and poor concentration, and these symptoms can mimic the onset of dementia. These patients were started on antidepressants and their memory assessment rearranged for a later date. Another group of patients was found to have co-existent early dementia with depression and these patients are particularly



likely to be those with good insight (awareness of their mental deterioration). Three of the patients under the age of 65 were found to have definite dementia. One had a history of familial presenile dementia. Two others had some evidence of cognitive impairment requiring reassessment later on. Most of this group of patients will have been seen in the clinical psychology department for neuropsychological testing to increase the likelihood of an accurate diagnosis.

Side effects

Fifty-five patients (50% of the sample) were started on anticholinesterase treatment. Figure 5 shows the incidence of side effects. Patients living alone were prescribed donepezil (a once daily dose) and patients living with their spouse or other carers were prescribed galantamine (which is taken twice daily). (Fairly recently, long-acting galantamine has been available, which is given once daily.) In the two groups of patients, transient side effects were slightly more



commonly seen in the donepezil-treated group. Overall, 47% had no side effects, 38% transient side effects and 15% were unable to tolerate these drugs. The most common side effects we encountered were nausea, loose motions, sleeplessness and nightmares. Although transient side effects were relatively common, they were not particularly troublesome; our drop out rate due to intolerance was very similar to that found in the original studies on donepezil and galantamine during their development. We had only one serious treatment – emergent reaction, in that the patient became unsteady and uncoordinated on galantamine: these symptoms disappeared on stopping the drug. Two patients developed epileptic fits, which were managed by reducing the dose and prescribing anti-epileptic drugs.

Outcome of treatment

Figures 6 and 7 represent the outcome of treatment at three months, as reported by the carer and by cognitive retest scores. A three-point change in the MMSE retest score was required for 'better' or 'worse' at three months. We tried hard to encourage the carers to report as objectively as possible. However, we did notice a discrepancy between our objective testing and carer assessment. Neither retest results nor relatives' reports are free of placebo effect and subjective factors. This attempt to measure the effect of anticholinesterase therapy at three months was done for our own clinical reasons and also because the National Institute for Clinical Excellence (NICE) guidelines for prescribing anticholinesterase therapy require a definitive review at three months' treatment. Since dementia is a progressive condition, a 'no change' outcome is a positive response to treatment. The numbers of patients recorded in these figures as 'worse' is incomplete since five donepezil patients and three galantamine patients discontinued treatment before three months because of intolerance. Three other patients were lost to follow-up.

Patient Number	Carer's Report			Cognitive Score		
	Better	Same	Worse	Better	Same	Worse
1						
3						
4						
6						
11						
13						
22						
25						
45						
46						
53						
61						
69						
72						
15 *						
25 *						
30 *						
36 *						

Figure 6 Outcome at three-month review: galantamine. Carer's report vs cognitive score

* The original audit was for 18 months. Patients referred in the next six months (extending the audit to two years) were restarted from number one.

Some 75% of patients showed modest cognitive gains or no deterioration at three months and 25% of patients were reported by carers to have clear improvements with treatment: these included improved mood, reduced anxiety,

increased initiative and activity levels. Some patients resumed activities that they had relinquished such as going for walks and reading.

Patient Number	Carer's Report			Cognitive Score		
	Better	Same	Worse	Better	Same	Worse
2						
7						
10						
17						
27						
35						
36						
42						
43						
49						
50						
51						
55						
64						
70						
77						
2 *						
6 *						
9 *						
17 *						
24 *						
27 *						
29 *						
32 *						
35 *						
37 *						

Figure 7 Outcome at three-month review: donepezil.
Carer's report vs cognitive score

* The original audit was for 18 months. Patients referred in the next six months (extending the audit to two years) were restarted from number one.

FINAL DIAGNOSIS OF MEMORY LOSS CONSIDERED FROM REFERRALS

- Suspected Alzheimer type dementia
- Depression
- Early dementia with depression
- Presenile dementia
- No diagnosis: awaiting further assessment

SOME CONCLUSIONS

Our study concurs with research showing benefits of anticholinesterase therapy in dementia, and we feel that these drugs should continue to be available on the NHS. We await the revised NICE Guidelines, now due in January 2006.

Our two treatment groups were relatively small and no firm conclusions can be drawn about the differences between the two drugs used. It would be worthwhile for clinicians prescribing anticholinesterase therapy within MBPCT to pool their data so that experiences can be shared.

Patients under 65 will continue to be referred for assessment and access to neuropsychological expertise from a clinical psychologist will be necessary. Support services for patients with presenile dementia should be developed.

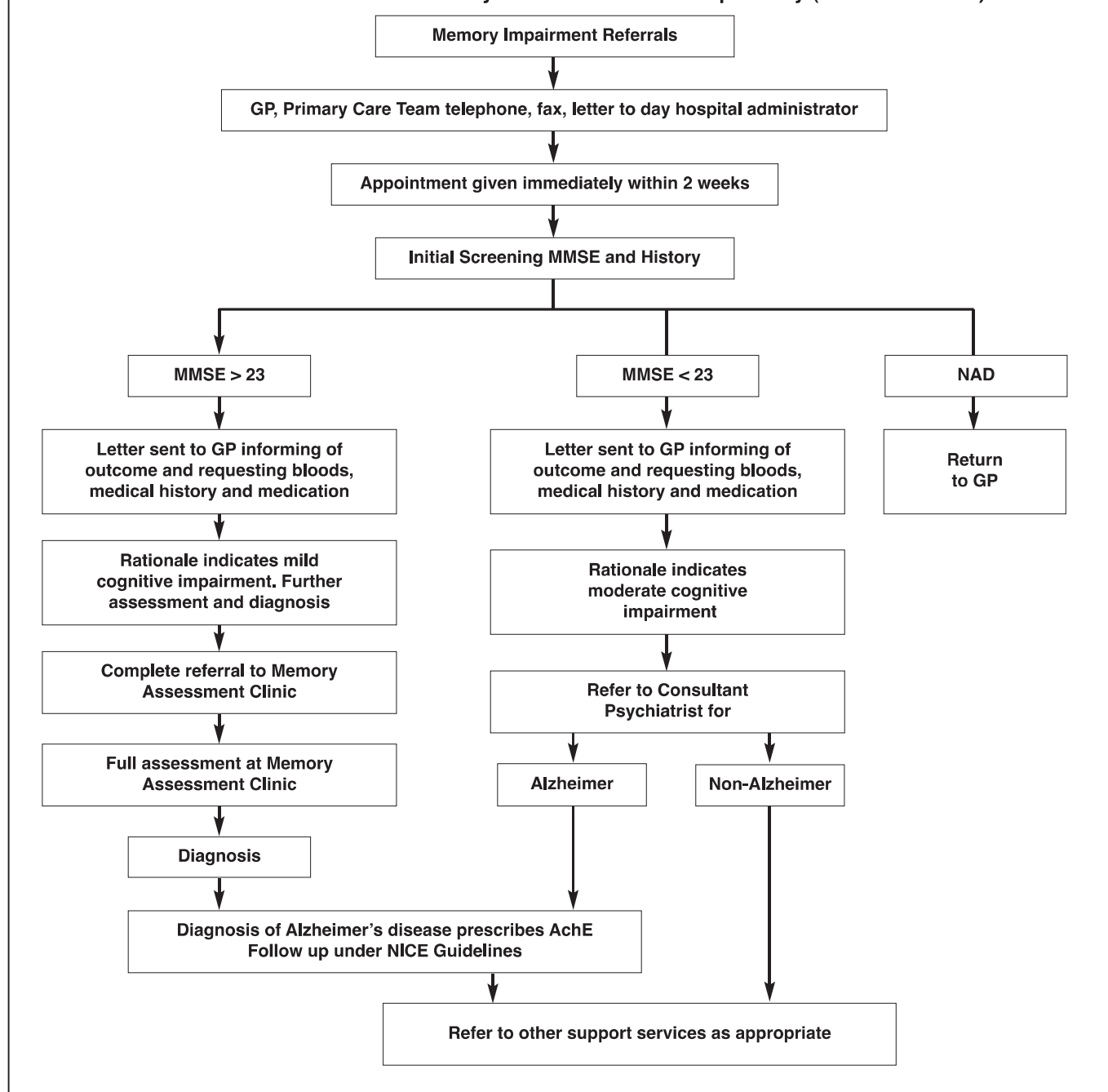
Much memory screening and assessment can be carried out by nurses and nurse-led clinics should be developed.

Dementia is a common condition but has a devastating effect on elderly patients and their carers and is increasing in prevalence owing to greater life expectancy. Early diagnosis and treatment with anticholinesterase therapy and non-pharmacological interventions can help patients remain safely in their own homes longer than used to be possible.

EVOLUTION OF THE CLINIC 2003-2005

- The clinic was re-organised in October 2003 and the Lancaster, Morecambe and Heysham Memory Clinics were amalgamated into one clinic based at Oaklands Unit in Lancaster.
- Some practices were unable to do the preliminary cognitive testing so our teams set up a pilot Initial Screening Clinic to determine which patients should be seen in the Memory Assessment Clinic and which in outpatients.
- The score was raised from 20 to 23 out of 30 for acceptance to the Memory Assessment Clinic. The revised referral flow chart is shown in the appendix.
- In the period following re-organisation, the clinical psychology department became unable to provide neuropsychological support for the clinic.
- A dementia-link nurse was appointed for one year to visit surgeries to encourage earlier referral, especially from low-referring practices.
- In April 2005, the Initial Screening Clinic was set up on a permanent basis.
- Since Social Services took over the day hospital at Oaklands Unit, the clinic has been transferred to Altham Meadows in Morecambe.

APPENDIX
Lancaster Clinic. Revised memory assessment of clinic pathway (December 2003)



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