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LEADING ARTICLES

CLINICAL RESEARCH • PAPERS AND SHORT REPORTS • PRACTICE OBSERVED

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CORRESPONDENCE

Because we receive many more letters than we have room to publish we may shorten those that we do publish to allow readers as wide a selection as possible. In particular, when we receive several letters on the same topic we reserve the right to abridge individual letters. Our usual policy is to reserve our correspondence columns for letters commenting on issues discussed recently (within six weeks) in the BMJ.

Letters critical of a paper may be sent to the authors of the paper so that their reply may appear in the same issue. We may also forward letters that we decide not to publish to the authors of the paper on which they comment.

Letters should not exceed 400 words and should be typed double spaced and signed by all authors, who should include their main degree.

Differential diagnosis of dementia

SIR,—Dr G P Mulley discusses the clinical differentiation of Alzheimer type dementias from vascular or multi-infarct type dementias by the use of the "ischaemic score" described by Hachinski *et al*[1] (31 May, p 1416). He states that the validity of this instrument has been verified neuropathologically.[2] However, this study was of only 14 patients and has also been criticised on the grounds that only one cerebral hemisphere from each patient was examined, thereby potentially missing important lesions in the non-examined hemispheres.

A recent review of published reports on the differentiation of Alzheimer type dementias from multi-infarct dementias concluded "that this literature fails to provide sufficient support for the *antemortem* differentiation of primary degenerative dementia from multi-infarct dementia on the basis of clinical criteria" (emphasis in original).[3] It also suggests that this is a subject in which there is opportunity for further research aimed at reliable methods of differentiation.

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1 Hachinski VC, Iliff LD, Zilhka E, *et al*. Cerebral blood flow in dementia. *Arch Neurol* 1975;**32**:632-7.
2 Rosen WG, Terry RD, Fuld PA, Katzman R, Peck A. Pathological verification of ischemic score in differentiation of dementias. *Ann Neurol* 1980;**7**:486-8.
3 Liston EH, LaRue A. Clinical differentiation of primary degenerative and multi-infarct dementia: a critical review of the evidence. *Biol Psychiatry* 1983;**18**:1451-84.

SIR,—We read with interest Dr Mulley's excellent review, but wonder whether he should not have included and discussed recent reports on event related potentials in patients with dementia.

There is evidence that certain components of event related potential and in particular the P300, which is said to be related to cognition, change not only with age but also in patients with dementia.[1-3] Goodin *et al* noted that 80% of demented patients had P300 latency which exceeded the normal values for age by two standard deviations.[1] In contrast, fewer than 5% of non-demented patients with other diverse neurological conditions or with psychiatric illness had delayed responses.[3] These results thus suggest that recording and measurement of the P300 response to auditory or visual stimulus may be helpful in differentiating patients who are truly demented from those who are suffering from pseudodementia (depression).

Visual evoked potentials have also been suggested to be useful in the diagnosis of senile dementia of the Alzheimer type as some workers have shown a significantly delayed flash with normal pattern reversal response in patients with Alzheimer's type dementia.[4,5] This anomaly is not seen in patients with depression, confusion, or other cerebral conditions causing cerebral atrophy.

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1 Goodin DS, Squires KC, Starr A. Long latency event-related components of the auditory evoked potential in dementia. *Brain* 1978;**101**:635-48.
2 Brown WS, Marsh JT, LaRue A. Event related potentials in psychiatry. Differentiating depression and dementia in the elderly. *Bull Los Angeles Neurol Soc* 1982;**47**:91-107.
3 Squires KC, Chippendale TJ, Wrege KS, Goodin DS, Starr A. Electrophysiological assessment of mental function in aging and dementia. In: Poon LW, ed. *Ageing in the 1980s*. Washington DC: American Psychological Association, 1980: 125-34.
4 Wright CE, Harding GFA, Orwin A. Presenile dementia—the use of the flash and pattern VEP in diagnosis. *Electroenceph Clin Neurophysiol* 1984;**57**:405-15.
5 Harding GFA, Doggett CE, Orwin A, Smith EJ. Visual evoked potentials in pre-senile dementia. *Doc Ophthalmol* 1981;**27**: 193-202.

SIR,—Dr Mulley has produced an interesting review of the investigations needed for patients with dementia, but I would question his inclusion of measurement of serum vitamin B_{12} concentrations as a routine test. My colleagues in neurology and geriatrics recently reviewed the indications for vitamin B_{12} assays in demented patients and concluded that there was no justification for making such a request unless the patient also had a macrocytosis or a peripheral neuropathy. Our district hospital therefore abandoned routine assays, with a considerable saving to the district with, we hoped, no risk to patients.

Like most haematologists I have seen patients with a neuropathy responsive to vitamin B_{12} and no anaemia, although such patients have had a macrocytosis. There is also considerable evidence that B_{12} deficiency can cause neurological and psychiatric problems, although these are most often seen in patients with obvious pernicious anaemia.[1] Even when psychoneurological problems and B_{12} deficiency coexist, the deficiency may not be responsible for the psychiatric problem[1] and treatment with B_{12} may not alter the clinical state.[2]

One of the papers quoted does not really support