

# Neuropsychiatric disturbances in the presenium

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0.26-30 Hz). Checkerboard pattern reversal VEP was recorded from O1-Fz and O2-Fz leads (for details of methodology see Visser et al. *Electroenceph. clin. Neurophysiol.* 1985, 60:115).

Before treatment 3 patients had normal or almost normal EEGs, 5 patients showed mild abnormalities (suggesting minor vascular pathology) and 10 patients

had severely deteriorated EEGs (slowing of background activity and insufficient reactivity). VEPs were normal only in 7 subjects; the remaining 11 showed delayed P165 and N220 latencies; in 4 of these also P100 was delayed. Results showed that in all three groups none of the variables changed significantly (Wilcoxon rank test).

## **61. Construction of lamda gt11 cDNA libraries from normal and Alzheimer's disease brains**

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The majority of the proteins which are specifically synthesized by the human brain remains unknown, while playing a keyrole in physiological and probably in pathological conditions. In particular, the biochemical origin of many degenerative disorders and of Alzheimer's disease is not known. In order to identify brain proteins and the characterize them at the molecular level, cDNA libraries from post mortem human brains were constructed. If the brain suffering and the post mortem delay are not too long, RNA was able to produce high molecular weight proteins when translated in vitro. mRNA was transformed into cDNA in order to be cloned in the lamda gt11 vector. After in vitro packaging, libraries were obtained containing  $10^6$  to  $210^6$  plaques, 92 to

98% of them being recombinants. Normal human brain was first investigated and cDNA libraries were constructed from cerebral cortex, caudate nucleus, cerebellum and hippocampus. Other regions like hypothalamus and substantia nigra will also be studied. A lamda gt11 cDNA library from the cerebral cortex of an Alzheimer's brain was also constructed. These libraries contain unknown but specific brain proteins. In order to try to identify these peptides, differential hybridization between brain cDNA and liver mRNA has been used. In particular, a caudate nucleus library containing cDNA enriched against human liver mRNA has been constructed. Differential hybridization will also be used between pathological cDNA and normal brain mRNA. This is the first step of the characterization of a small number of cDNA specifically expressed in brain areas which are affected in degenerative disorders leading to dementia.

## **62. Neuropsychiatric disturbances in the presenium: possible contributions to early diagnosis of dementia**

*F.R.J. Verhey, E.J. Reyersen van Buuren and J. Jolles (Maastricht, The Netherlands)*

The nature of first symptoms of dementia is largely unknown. Memory complaints and memory deficits are frequently mentioned in this respect, but these form also part of normal aging. Depressive and neurotic features might also be early symptoms. This might even be the case in fairly "young" patients in their fifties, complaining of disabled memory, concentration and with professional problems. The present study explored the possibility that neuropsychological impairments suggesting abnormal aging might be found in a psychiatric outpatients population of 45 through 60 years old. Six patients (47-59 years) were examined (neurological, psychiatric and neuropsychological, behavioral neurology, psychometric and information processing tasks). These patients were at first sight much the same; all had complaints of memory and concentration, fatigue, loss of energy and normal interests, were unable to perform normal in their profession while

they had once functioned well. All were dysthymic according to DSM III.

Extensive history taking revealed that risk factors for brain damage were present in 4. Neuropsychological deficits were objectifiable in 5 patients, profiles were remarkably different. Abnormalities varied from minor planning deficits to multiple deficits of memory, concentration, language, planning and speed of information processing. Neurological examination was normal in all.

As the complaints of this type of patient are usually interpreted in terms of psychological or social models, these findings suggest that a neuropsychiatric / neuropsychological approach may be relevant to these patients. Extensive history taking revealed risk factors for brain damage that was unknown until that moment. Neuropsychological assessment turned out to be indeed more differentiating than clinical examination. Follow-up will take place to investigate whether these findings will turn out to be first symptoms of dementia or must be described to "normal aging".

## **63. Contribution for neuropsychology to early diagnosis of demential syndromes and the implication for treatment and care**

*E.J. Reyersen van Buuren, F.R.J. Verhey and J. Jolles (Maastricht, The Netherlands)*

Neuropsychologists traditionally addressed themselves to the assessment of brain damage or