Application of research criteria for dementia in common clinical practice

Citation for published version (APA):

Document status and date:
Published: 01/01/1990

Document Version:
Publisher's PDF, also known as Version of record

Please check the document version of this publication:
• A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher’s website.
• The final author version and the galley proof are versions of the publication after peer review.
• The final published version features the final layout of the paper including the volume, issue and page numbers.

Link to publication

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

• Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
• You may not further distribute the material or use it for any profit-making activity or commercial gain
• You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the “Taverne” license above, please follow below link for the End User Agreement:
www.umlib.nl/taverne-license

Take down policy
If you believe that this document breaches copyright please contact us at:
repository@maastrichtuniversity.nl
providing details and we will investigate your claim.

Download date: 15 Sep. 2023
The results suggest that Alzheimer’s and MCI dementia present different clinical courses.

PREDICTORS OF INSTITUTIONALIZATION AMONG PATIENTS WITH ALZHEIMER’S DISEASE AND OTHER DEMENTIAS. *Monka Baumgarten, Rubin Becker (St. Justine Community Health Department and McGill University, Montreal, Canada).

The social, psychological, and economic costs associated with institutionalization of the dependent elderly are high. Therefore, a major management goal in the care of patients with Alzheimer’s disease or another dementia is to maintain the patient in the community for as long as possible. As part of a study on the health of family caregivers (OGs) of patients with dementia, our objective was to identify characteristics of patients and OGs which were predictive of institutionalization over a one year interval. Patients (n=85) with DSM-III diagnosis of dementia were recruited from the geriatric assessment unit of a large Montreal teaching hospital. All patients were residing in the community when the study began. Those who were referred to the geriatric unit specifically for prospective institutionalization were included. Data were obtained through home interviews with the family OG and from the geriatric unit's medical charts. At one-year follow-up, 8% of the patients had died and 34% had been institutionalized: patients who had died were not included in subsequent analyses. When contrasted with patients who were still living in the community, patients who had been institutionalized in particular, postural sway was specifically impaired, and had a higher level of dependence with respect to activities of daily living. They were also more likely to be male and had a longer mean duration of dementia, although these variables were not statistically significant. Patients whose OG was a child rather than the spouse had a higher probability of institutionalization. A higher baseline level of depression among OGs was predictive of institutionalization, although the OG's physical health status (as measured by the number of reported chronic conditions) was not. Although most of the factors of institutionalization are not yet identifiable, knowledge of these factors can help clinicians and community health practitioners to target patients and families who are at high risk, and to implement appropriate preventive and therapeutic strategies.

FAMILIAL ALZHEIMER’S DISEASE: STUDY OF A NEW ITALIAN KINDRED. L. Bergamini, *I. Rainero, L. Pinessi, G. A.C. Bruni, G. Gel, M.P. Montesi, C. Ermio; Dept. of Neurology, University of Turin (Italy). The ancestors of the patient were from Calabria (Southern Italy) and members of the family emigrated to the North of Italy, to France and to the USA. The pedigree is consistent with autosomal dominant inheritance. The "Torino family" shows several similarities with the families described by Foncin et al. (1): the ancestors were born in the same country of Calabria, neurological and psychiatric symptoms are the same in the two families and no difference in age at onset of the disease and age at death was found. We are trying to find a direct linkage between these two kindreds. Molecular genetic of this new family is currently under investigation.


DIFFERENCES IN POSTURAL SWAY PATTERNS IN INDIVIDUALS WITH ALZHEIMER’S DISEASE WITH AND WITHOUT HISTORY OF PAST FALLS. *A. Rhee, M. Hausdorfer, E. Tiedt, F. Beuker (St. Justine Community Health; McGill University); J. Gilsen, Alois Alzheimer Center; A. McCracken, College of Nursing; and G. Warshaw, Geriatric Division of the University of Cincinnati Medical School; Cincinnati, Ohio, U.S.A.

Persons with Alzheimer’s disease (AD) have more than three times the risk of falling than cognitively healthy elderly persons. Regardless of the physiological conditions for which falling is a marker, the most significant risk factor is the impairment of postural balance. In an effort to determine the ability to perform quantitative postural sway tests in the subjects with AD and differences in postural sway patterns in patients with and without history of falls, a pilot study with 2 male and 2 female patients was performed. Out of 4 patients (mean age: 84.7 yrs.), 2 had previous history of falls. Postural sway testing was conducted on these patients with Haycock's Balance Scale score 6 to 26. The postural sway was noninvasively quantitated with a microprocessor-based force platform system. Each patient performed four tasks i.e., EO: Eyes open on force plate; EC: Eyes closed on force plate; FO: Eyes open on foam pad placed on the force plate; and FC: Eyes closed on foam pad placed on the force plate. This test allows quantification of the movement pattern of body's center of pressure associated with postural sway. These tests were designed to indirectly evaluate the roles of vision, proprioception and the vestibular system for postural balance. The patients with previous history of falls had difficulty in completing FO and FC tests. In particular, postural sway patterns for the fallers were significantly larger than the nonfallers for the FO (up to 3.9 times) and FC (up to 4.7 times) tests where the vestibular system is placed at a higher challenge compared to EO and EC tests. Furthermore, frequency of sway patterns in the fallers (0.08 Hz for lateral sway and 0.11 Hz for anterior-posterior[A-P] sway) was low compared to the nonfallers (0.18 Hz for lateral sway and 0.23 Hz for A-P sway) which is consistent with vestibular-controlled postural balance characteristics. In summary, the result of our above-mentioned case study indicates that postural sway tests conducted in the Alzheimer patients and there exists a significant difference in postural sway response between fallers and nonfallers.

APPLICATION OF RESEARCH CRITERIA FOR DEMENTIA IN COMMON CLINICAL PRACTICE. *R.J. Varhey, R.M. Ponds, E.J. Revenson van Baarum, F.W. Vreeling and J. Joles, Departments of Neuropsychology and Psychobiology and *Neurology; University of Limburg, P.O. Box 616, 6200 MD Maastricht, The Netherlands.

Recently, diagnostic criteria were proposed for the clinical and research diagnosis of dementia and Alzheimer’s Disease (AD) with the aim of reaching a higher degree of homogeneity of the group (NINCDS-ADRDA). The present study addresses the question whether, and to what extent, a diagnostic approach based upon the recommended procedures leads to an outcome which is different from the diagnosis based upon the existing routine approach. 234 consecutive admissions to a specialized Alzheimer Center (the Maastricht Memory Clinic MMC) were compared to diagnoses made previously by raters who had not used such a model. All patients (mean age 82.9 yrs.) were referred because of a memory problem, which could vary from mild subjective complaints to severe dementia. All patients underwent a semi-structured interview with the patient and his informant, an extended neuropsychological testbattery, bloodtests, and CT-scan. Furthermore, the following scales were used: the Global Deterioration Scale (Revised Version) of the Hamilton Rating Scale for Depression, the Mini-Mental State Examination and Hachinski ischaemic Score. Prior to evaluation in the MMC, the original diagnosis of dementia was obtained from a medical chart of the patient. The disease was diagnosed in 66 out of 186 patients. Out of 73 patients, referred as a dementia, the diagnosis was changed in 32 cases (44%): in 12 cases the deficit was focal and in 6 other cases the deficits were not severe enough to interfere with social activities. The diagnostic change occurred in 14 cases. AD was overdiagnosed in 12 cases. In 6 of these, history taking revealed onset older than 60. Further studies are necessary to assess the long term outcome of such patients. On the other hand, the diagnosis of dementia was made in 34 (21%) of 161 patients, previously not diagnosed as such. These were all cases of mild dementia. The study shows that the extensive approach as recommended for research leads to substantial
AMYLOID B-PROTEIN DEPOSITION AS A SEMINAL PATHOGENETIC EVENT IN AD: AN HYPOTHESIS. D.J. Selkoe. Harvard Medical School and Brigham and Women's Hospital, Boston, MA 02115.

Evidence emerging from numerous laboratories during the last two years suggests that amorphous, largely non-fibrillar deposits of the amyloid β-protein (AβP) precede the development of neuritic plaques, neurofibrillary tangles, gliosis and other pathological changes in Alzheimer's disease (AD) and Down's syndrome (DS).

We studied such diffuse plaques to advantage in AD cerebellum and striatum, where they are virtually the only form of AβP deposit found even at the end of the disease (Joachim et al., An. J. Path. 135:309, 1989 and J. Neuropath. Exp. Neurol. 87:330, 1989). If local neuronal/neuritic alteration were a prerequisite for AβP deposition, one would expect som morphological evidence of neuritic abnormality after years of cerebellar and striatal AβP deposition, particularly since profound neuritic pathology surrounds many AβP deposits in cerebral cortex. Similarly, sizable numbers of diffuse AβP deposits can be found in some 25-35 year old DS subjects at a time when no neuritic or glial abnormality is detectable. Recently, we discovered AβP-immunoreactive deposits in vessels and/or perivascular tissue of skin and other non-neural tissues in AD and DS, suggesting that extraneuronal AβP deposition can occur in the absence of neuronal or glial injury, indeed, in the absence of neurons and glia. These and other observations strongly suggest that β-amyloidosis in AD, like other better characterized amyloidoses, is not secondary to local cellular change but precedes it. We, therefore, hypothesize that in normal aging, an alternate minor path for APP proteolytic processing exists which results in accumulation or generation of APP containing the intact AβP region. In DS, this alternate pathway, which is normally used at a low level, is overutilized due to the increased expression of APP molecules that results from higher gene dosage. In FAD, rearrangements or mutations on ch. 21 (in at least some families) lead to a dysregulation of APP biosynthesis that results in more APP molecules being processed through the minor pathway and increased genesis of AβP, producing a histologic phenotype that is indistinguishable from that of DS. The progressive deposition of AβP in DS and FAD initiates, either directly or indirectly, a cascade of secondary cellular changes (including local neurite growth) that, over years or decades, produce neuronal dysfunction and thus dementia.

ROLE OF IMMUNE FACTORS IN AMYLOIDOSIS IN ALZHEIMER BRAIN T. Ishii, S. Haga, M. Satoh, and F. Kametani, Psychiatric Research Institute of Tokyo, Setagaya-Ku, Tokyo 156, Japan. The earliest stage of amyloid B-protein (AβP) fibril formation (amyloidogenesis) in the Alzheimer brain was studied by immunohistochemical methods using antibodies to subsequent forms of AβP precursor protein (APP), immunoglobulins (Ig), complements (CP), C1q, C4, C3 and Ig and C3 and AβP are present in diffuse plaques which are thought to be the earliest stage of amyloid deposition. In addition, the monoclonal antibody to senile plaques which was previously (Ishii et al., Neuropathol Appl Neurobiol 12, 1986) proved to react with epitopes in the light chain of IgG thus indicating the presence of the latter epitopes in close association with the amyloid fibrils in the Alzheimer brain. In the case of complement immunohistochemistry, immuno-EM pictures revealed the deposition of a homogenous material (probably preamyloid substance) near the immunoreactive amyloid fibrils, indicating the possible role of CP fixation in fibril formation. Microglial cells are few in number in the area of diffuse plaques but later the numbers increase and microglia accumulate in and around mature plaques. The above immunological factors are thought to be secreted by macrophages through interleurikin 1 and the process may be interpreted as a kind of chronic inflammation. The problem is what kind of antigen or antigens stimulate such an immunological response in the process of amyloid deposition in the Alzheimer brain. APP fragment catabolism on membrane may be proposed as the cause of amyloid formation. Certainly toxic as well as toxic effects of β-protein are reported. However, abnormal breakdown products of physiological substances usually lead to