

were randomly assigned to receive olanzapine (dose, 2.5–7.5 mg per day) or risperidone (dose, 0.5–4.5 mg per day). Patients were followed for up to 10 weeks. The main outcomes were the scores of the Clinical Global Impression of Change (CGIC) scale and Brief Psychiatric Rating Scale (BPRS).

**Results:** There were no significant differences among treatments with regard to improvement in risperidone and olanzapine group on the CGIC ( $3.2 \pm 4.3$  vs.  $3.5 \pm 5.8$  & P Value = 0.564) and BPRS scale ( $8.2 \pm 9.2$  vs.  $8.8 \pm 9.2$  & P Value = 0.522). Furthermore, although the number of patients who had left the study cause of side effects, was greater in risperidone group, sedation and headache are more common with olanzapine than risperidone.

**Conclusion:** Both risperidone and olanzapine might be useful and reasonable treatment for patients who suffering from behavioral disturbances due to psychosis in Alzheimer disease

## P0014

The outcome of dementia in Clinical County Hospital of Arad

D.M. Podea, R.M. Chenderes. *Department of Psychiatry, West University Vasile Goldis, Arad, Romania*

**Objective:** The aim of this study is to appreciate the outcome of patients diagnosed with dementia in the Psychiatric Clinic of Arad, Romania.

**Material and Methods:** The study was conducted on 40 patients admitted in the Clinic during January 2006–July 2007. They were diagnosed with Alzheimer and mixed dementia. The diagnosis was established according to ICD-10 and DSM-IV-TR operational criteria.

The patients were evaluated three times, at the admission, at discharge and after 6 months of clinical evolution and treatment through psychiatric exam and psychological assessment (MMSE–Mini Mental State Evaluation and QI–Quotient of Intelligence).

The patients were treated with acetylcholinesterase inhibitors (donepezil) and NMDA (N-metil-D-aspartat) inhibitors (memantine). Some patients ( $n=20$ ) were treated with occupational psychotherapy also.

**Results and Conclusions:** The diagnosis of mixed dementia is more frequent than Alzheimer dementia (26 vs. 14). Almost all the patients were professionally inactive ( $n=34$ ). The QI is in direct relationship with the MMSE scores at the admission and in inverse relationship with the hospitalization period. The hospitalization period is in inverse relationship with the MMSE scores. Almost all the patients present a moderate cognitive impairment, according to MMSE score ( $n=24$ ). Temporal and spatial orientation, registration and recall were affected to all patients. The improvement of cognitive impairment, evaluated at discharge, was minimal. 14 patients presented no improvement at all and the others 26 recorded a 1 or 2 points improvement. After 6 months of treatment, the average of MMSE scores increased with 0.9 points versus 0.4 points after discharge. Those patients who were treated with occupational psychotherapy have had a favorable improvement of average MMSE scores (1.4 points versus 0.3 points).

## P0015

Reduction in brain atrophy associated with Ethyl-Eicosapentaenoic Acid in Patients with Huntington's disease

B.K. Puri<sup>1</sup>, G.M. Bydder<sup>2</sup>, A. Clarke<sup>3</sup>, M.S. Manku<sup>3</sup>, C.F. Beckmann<sup>4</sup>. <sup>1</sup>MRI Unit, Imaging Sciences Department, MRC CSC, Imperial College London, Hammersmith Hospital, London,

UK <sup>2</sup> Department of Radiology, University of California, San Diego, School of Medicine, San Diego, CA, USA <sup>3</sup> Amarin Neuroscience Limited, The Oxford Science Park, Oxford, UK <sup>4</sup> Clinical Neuroscience Department, Imperial College London and FMRIB Centre, University of Oxford, Oxford, UK

**Background and Aims:** Ultra-pure ethyl-EPA, a semi-synthetic, ethyl ester of eicosapentaenoic acid, is associated with clinical improvement in motor functioning in Huntington's disease. The aim was to determine the extent to which it might reduce the rate of progress of cerebral atrophy.

**Methods:** High-resolution MRIs were acquired at baseline, six months and one year in 30 patients with stage I or II Huntington's disease who took part in a randomized, double-blind, placebo-controlled trial of 2 g daily ethyl-EPA. For each subject and each pair of T1 images, the two-timepoint percentage brain volume change was estimated in a double-blind fashion using SIENA (Structural Image Evaluation, using Normalisation, of Atrophy), Version 2.5, part of FSL (version 4.0, <http://www.fmrib.ox.ac.uk/fsl>).

**Results:** Figure 1 shows areas of significant group-level reduction in brain atrophy between patients receiving ethyl-EPA and those receiving placebo (red-yellow: the colour bar shows the p-value under the null hypothesis of no change). Significant changes are observed at the head of the caudate and the posterior section of the thalamus.

**Conclusion:** Treatment with ethyl-EPA is associated with significant reduction in brain atrophy in Huntington's disease, particularly in the caudate and thalamus. No other drug tested in Huntington's disease has shown this effect (fx).



## P0016

Alzheimer's disease – type 3 diabetes?

M. Flirski, T. Sobow, I. Kloszewska. *Department of Old Age Psychiatry and Psychotic Disorders, Medical University of Lodz, Lodz, Poland*

The negative influence of diabetes mellitus (DM), both insulin-dependent and non-insulin dependent on the level of cognitive functions has been proven in multiple studies. DM is considered one of the primary risk factors for vascular dementia. The results of epidemiological studies suggest that DM increases the risk of Alzheimer's disease (AD) by 50–100% as well. The effect is largely independent of other, so-called vascular risk factors. The association could be explained by chronic brain hypoperfusion, the toxic effects of hyperglycaemia itself (damage to the blood-brain barrier), and the mediating role of insulin. Since the discovery of insulin and its receptors in the central nervous system, brain has no longer been considered an insulin-independent organ. Physiologic concentrations of insulin exert a beneficial effect on cognition. Too low a concentration of insulin in the periphery as well as hyperinsulinaemia, usually as a result of insulin resistance, both can significantly increase the risk of AD (even in people not suffering from DM!). There are several mechanisms through which central hypoinsulinaemia can accelerate the generation of

Alzheimer pathology: decline of glucose utilization, particularly in the hippocampus and entorhinal cortex; increased oxidative stress associated with the synthesis of advanced glycation endproducts (AGE); increased tau protein phosphorylation and neurofibrillary tangle formation; increased aggregation of beta-amyloid protein secondary to the insulin-degrading enzyme (IDE) inhibition. Therapeutic strategies targeted at restoring the balance in insulin metabolism in AD – applying nasal insulin or using thiazolidinediones – are currently in the phase of clinical trials.

### P0017

A-Beta Plasma levels and long-term response to rivastigmine in Alzheimer's disease

T. Sobow<sup>1</sup>, M. Flirski<sup>1</sup>, E. Golanska<sup>2</sup>, P.P. Liberski<sup>2</sup>, I. Kloszewska<sup>1</sup>. <sup>1</sup> *Department of Old Age Psychiatry & Psychotic Disorders, Medical University of Lodz, Lodz, Poland* <sup>2</sup> *Department of Molecular Pathology & Neuropathology, Medical University of Lodz, Lodz, Poland*

Cholinesterase inhibitors (ChEI) are currently the mainstream symptomatic treatment of patients with Alzheimer's disease (AD). To this end, the response to the treatment with ChEI is clinically difficult to predict. Several demographic, clinical and biological variables have been proposed as pre-treatment predictors of long-term therapy efficacy. The aim of this study was to confirm our initial observations of a significance of change in plasma levels of b-amyloid (A $\beta$ ) peptides after initial treatment with rivastigmine for predicting clinical response to ChEI. Fifty four carefully selected subjects (37 females) satisfying criteria for mild (N=25) or moderate (N=29) AD were included in the study. Rivastigmine was prescribed at the initial dose of 3 mg/day b.i.d.; the dose was escalated to the maximum tolerated one in at least 4-week intervals. The response to treatment was assessed using ADAS-Cog scale. The whole blood samples were collected twice: before the first rivastigmine dose and at the 2nd week on active treatment. Levels of Ab1-40 and Ab1-42 were measured in plasma using a commercially available ELISA. We confirmed that higher initial disease severity (higher ADAS-Cog scores) and the increase in the concentration of plasma A $\beta$ 1-42 peptide following 2 weeks of treatment with an initial dose of rivastigmine increased the chance of a clinically meaningful response to ChEI therapy in AD patients after 2 years of follow-up. To conclude, a change in plasma A $\beta$ 1-42 level might constitute a novel biochemical predictor of long-term rivastigmine treatment efficacy in AD.

### P0018

APOE, CYP46, PRNP and PRND: Genetic polymorphisms in Alzheimer's disease and mild cognitive impairment

M. Flirski<sup>1</sup>, M. Sieruta<sup>2</sup>, T. Sobow<sup>1</sup>, P.P. Liberski<sup>2</sup>, I. Kloszewska<sup>1</sup>. <sup>1</sup> *Department of Old Age Psychiatry and Psychotic Disorders, Medical University of Lodz, Lodz, Poland* <sup>2</sup> *Department of Molecular Pathology and Neuropathology, Medical University of Lodz, Lodz, Poland*

**Background:** The only widely confirmed sporadic AD genetic risk factor is carrying the apolipoprotein E  $\epsilon$ 4 allele. The results of numerous studies on various other genes are highly inconclusive. Genetic studies in mild cognitive impairment (MCI) are scarce.

**Objective:** To assess the influence of APOE, CYP46, PRNP, PRND genetic polymorphisms on the risk of AD and MCI.

**Material & Methods:** To date, over 100 subjects with AD, amnesic form of MCI and cognitively healthy age-matched controls have been recruited for the study (ongoing recruitment). To increase the homogeneity of the studied population subjects with prominent comorbid vascular risk factors, family history of dementia or satisfying criteria for non-AD neurodegenerative dementias have been excluded from the study. RFLP and sequencing techniques were employed to assess polymorphic sites in the CYP46, PRNP, PRND and APOE genes.

**Results:** As expected, the proportion of APOE  $\epsilon$ 4 carriers was significantly higher in the AD group compared to controls. No statistically significant influence of polymorphisms in the CYP46, PRNP and PRND genes on the risk of AD or MCI was observed. However, the odds ratio for PRNP codon 129 homozygosity was over fivefold higher in the AD group compared to other study groups.

**Conclusions:** The significance of APOE genotype as an AD risk factor seems to be beyond controversy. The role of other genes putatively involved in the pathobiology of neurodegenerative disorders seems vague at most. Studies on much larger populations are required to estimate true significance of those genetic variants in the etiology of AD.

### P0019

Prevalence of Dementia with Lewy Bodies in a communal psychogeriatric inpatient population

B. Habermeyer<sup>1</sup>, C. Kueng<sup>1</sup>, C. Kuhl<sup>1</sup>, E. Savaskan<sup>2</sup>, G. Stoppe<sup>1</sup>. <sup>1</sup> *University Psychiatric Hospitals, Basel, Switzerland* <sup>2</sup> *Psychiatric University Hospital, Zurich, Switzerland*

**Objective:** Data on the prevalence of Dementia with Lewy Bodies (DLB) derive mostly from neuropathological data or community studies. There exist only limited data about the prevalence in the communal geriatric psychiatry service with 3% in a Chinese and 28% in a British study.

**Method:** We applied the recently revised consensus criteria for DLB, One Day Fluctuation Assessment Scale (ODFAS) and Unified Parkinsons Disease Rating Scale (UPDRS) retrospectively (chart review) (n=58) and prospectively (n=54) on demented patients in a communal psychiatric service in Basel, Switzerland.

**Results:** Prevalence in the prospective group was 19% and 5% in the retrospective group. The odds ratio between both groups is 5.1. If gender is considered odds ratio for women is 2.4 and for men 6.8.

**Conclusions:** Our study shows that in communal geriatric psychiatry a high prevalence of DLB is encountered and that prospective use of DLB diagnosis criteria in combination with scales for fluctuation and parkinsonism enhances the detection rate of DLB.

### P0020

Risk factors in Alzheimer's disease evolution for patients with MCI

O.P. Stovicek, D.G. Marinescu, M.C. Pirlog. *University of Medicine and Pharmacy of Craiova, Craiova, Romania*

**Background and Aims:** The MCI syndrome is precociously present in over 50% of the patients that develop Alzheimer's Disease (AD) in the following three years. The evolution rhythm can be precipitated by the intervention of some risk factors.

**Methods:** Retrospective study with 30 patients with their case histories and current AD diagnosis confirmed by CT and DSM IV, evolution stage medium to serious. The aim was emphasize risk factors: