

disease, and family history were not different between the two groups. The homocysteine level was significantly increased in the DG (14.70  $\mu\text{mol/l}$ ) compared to the NDG (11.51  $\mu\text{mol/l}$ ) (or 1.094; 95% CI 1.013–1.180), controlling for factors described above.

**Conclusion** Our results suggest that homocysteine plays a major role in the pathogenesis of depression after infarction and provides a clue in the vascular depression theory. Early identification of this risk factor may lead to effective therapeutic intervention.

#### P2026

##### **A novel test identifies abnormal thrombin resistance to inactivation in patients with acute cerebrovascular disease**

P. Bertora<sup>1</sup>, L. Preda<sup>2</sup>, G. Alberti<sup>1</sup>, C. Lovati<sup>1</sup>, E. Rossi<sup>2</sup> and C. Mariani<sup>1</sup>

<sup>1</sup>Neurology Department, <sup>2</sup>Haematology Department, L. Sacco Hospital, Milan, Italy

**Background** Abnormalities in clotting factors leading to a hypercoagulability status can be a cause of stroke in absence of other identifiable risk factors. A novel test, the global thrombin-antithrombin test (GTAT), allowed us to evaluate resistance of thrombin inactivation by the antithrombin system. An unusually high percentage of alterations in this test was found in an unselected population of neurologic patients. The GTAT shows a physiological inverse relationship with fibrinogen values.

**Methods** We collected blood samples and clinical data from 155 consecutive patients admitted to our Department of Neurology for various neurologic conditions over a 3-month period. Patients were subdivided into 2 groups based on the presence or absence of acute cerebrovascular disease. Laboratory dosages of factor II, factor V, fibrinogen, protein C + S, and the GTAT were performed on all patients on admission.

**Results** Fifty-five of 155 patients (35.5%) were admitted for acute cerebrovascular disease (CVD) (cerebral ischemia, haemorrhage, or TIA). An inappropriately low GTAT value with respect to fibrinogen levels was found in 8/55 (14.5%) CVD patients and in 7/100 (7%) patients with other neurological conditions ( $P < 0.05$ ). No statistical difference was found between the two groups as regarded fibrinogen levels, result of global protein C + S-test, or leukocyte counts. The GTAT detects a newly identified factor capable of inducing hypercoagulability. Abnormal resistance to inhibition of factor II inactivation can be an independent predisposing factor for cerebral thrombosis or embolism.

#### P2027

##### **Visualization of the recoverable brain**

R. A. Neubauer<sup>1</sup> and F. Gerstenbrand<sup>2</sup>

<sup>1</sup>Ocean Medical and Neurological Center, Laud-by-Sea, FL, USA and <sup>2</sup>Ludwig Boltzmann Institute for Restorative Neurology and Neurosurgery, Vienna, Austria

The purpose of this presentation is to identify reperfusable and possibly recoverable brain tissue in patients with acute and long-term brain insults. The method uses SPECT scanning (TC 99 m HMPAO) with hyperbaric oxygen (HBO) challenge. A baseline scan is performed, followed by a repeat scan, between three and 80 exposures to hyperbaric oxygen in a monoplace chamber (1 h, 1.5 ATA). When changes in

perfusion occur, HBO treatment is continued with repeat sequential SPECT imaging which is utilized to follow progress. Several cases of stroke will be presented: acute (male, age 79, four hour onset); four years neurologic deficit (female, 74 years old) with improvement following the administration of hyperbaric oxygen; and before and after effects of hyperbaric oxygen on a three-year-old female near drowning, 11 months (post ictus). Finally, imaging, before and after 200 HBO treatments, on a 34-year-old-male explosion victim who had the left side of his brain destroyed. The changes in flow and metabolism, in all cases, paralleled clinical improvement. It is concluded that SPECT scanning is a useful and necessary measurement to evaluate any type of brain therapeutic intervention, especially hyperbaric oxygen.

#### P2028

##### **Interleukin-1 beta polymorphism (-511) is not associated with increased risk of stroke**

T. J. Dziedzic, A. Slowik, J. Pera, A. Klimkowicz and A. Szczudlik

Department of Neurology, Jagiellonian University, Krakow, Poland

**Objective** A growing body of evidence has indicated an important role of interleukin-1 (IL-1) beta in the development of brain damage following cerebral ischemia. Central administration of IL-1 exacerbates brain damage and injection or over-expression of IL-1 receptor antagonist reduces dramatically the infarct size. Polymorphisms in the IL-1 beta gene have been reported to influence protein production. We hypothesized that the IL-1 beta 511 T/T genotype is associated with an increased risk of stroke.

**Materials and methods** Two hundred and forty-nine stroke patients (mean age:  $66.7 \pm 12.0$  years, 144 men) and 202 controls matched for age, sex and cardiovascular risk factor were included. Stroke etiology was defined according to TOAST criteria: 103 patients had cardio-embolic stroke, 62 patients had small-vessel disease and 84 patients had large-vessel disease. A single base pair polymorphism at position 511 in the promoter region of the IL-1 beta gene was analysed by the PCR-restriction fragment length polymorphism.

**Results** There was no significant difference in IL-1 beta (-511) genotype distribution between stroke patients and controls (stroke patients: C/C – 45.8%, C/T 41.0%, T/T 13.2%; controls: C/C 48.0%, C/T 42.6%, T/T 9.4%; Chi-square 1.6,  $P = 0.20$ ). Neither control nor stroke patient group deviated from the Hardy-Weinberg equilibrium.

**Conclusion** Our preliminary results suggest that IL-1 beta 511 T/T genotype is not associated with increased risk of stroke.

#### P2029

##### **Pro- and antioxidant balance in the treatment of cerebral ischemia by magnesium sulphate**

N. Yu. Shcharbina and N. I. Nechipurenko

Institute of Neurology, Neurosurgery and Physiotherapy of MH RB, Minsk, Belarus

**Objective** To study the action of magnesium on the pro- and antioxidant balance in cerebral ischemia.

**Materials and methods** Brain focal ischemia (BFI) modeling in rabbits was performed by bilateral occlusion of common

# **EUROPEAN JOURNAL OF NEUROLOGY**

Volume 10, Supplement 1, September 2003

## **Abstracts of the 7th Congress of the European Federation of Neurological Societies**

30 August–2 September 2003  
Helsinki, Finland



**Blackwell  
Publishing**



1471-0552(200309)10:5+1;1-Z