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Background: Stroke is a heterogeneous disease. The most common causes of cerebral infarction are: large artery atherosclerosis, small vessel disease and cardioembolism. Furthermore, there are several genetic variations in drug metabolism in regard to the most frequently used antiplatelet agents and anticoagulants that potentially underlie variability in drug efficacy and adverse drug reactions. **Objective:** This study discusses investigation, outcomes and the clinical effectiveness of clopidogrel administration for secondary stroke prevention in Bulgarian patients with cerebral infarction based on an assessment of "clopidogrel resistance".

Patients and methods: Participants included 214 patients (104 male and 110 females, range 41–89 years) with ischemic stroke. They were assigned to receive 75 mg of clopidogrel daily despite regular medical therapy. Assessment of individual pharmacological response to antiplatelet therapy was performed on 24 cases by platelet function tests, including multiple electrode aggregometry (MEA).

Results: Among the 28 subjects evaluated by laboratory tests, only 3 showed a resistance to clopidogrel. During the clinical follow-up for a period of 5–8 months, the prevalence of consecutive cerebrovascular events was greater in 6 patients who underwent tests, and none of them were resistant to clopidogrel. Our study presents confirmatory results with respect to efficiency and safety of clopidogrel administration for secondary stroke prophylaxis. In fact, only 4% of Bulgarians are not-responding to clopidogrel treatment.

Conclusion: Antiplatelet drug clopidogrel is the main point for secondary stroke prevention with or without assessment of platelet function testing. We recommend an individualized approach for each patient with cerebrovascular disease.

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Abstract – WCN 2013

No: 2832

Topic: 3 – Stroke

Age, sex and stroke type differences in stroke patients at Mukalla, Hadhramout, Republic of Yemen: Analysis of 1072 cases

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Background: Stroke is the third leading cause of death, and a cause of long-term disability among survivors.

Objectives: To identify age, sex and stroke type differences in stroke patients.

Patients and methods: A retrospective study of stroke patients admitted at Mukalla, Hadhramout in 1/2009–12/2011. Data were collected in a questionnaire from patients' files.

Results: There were 1072 stroke cases; ischemic stroke was 78.5% and hemorrhagic 21.5%. Males 56.5% and females 43.5%. Old patients' > 60 years were 72% of cases. Hypertension was more in middle-aged. Diabetes was in 36.3% and 39.5% of middle-aged and old, and 7.4% of young. Old patients had ≥ 2 risk factors (89.9%). Ischemic stroke increased with age, while hemorrhagic type was more in young. Coma was more in young. Non-significant difference between males and females, in hypertension, diabetes previous attacks and family history. 94.2% of males had ≥ 2 risk factors and females (70%). Ischemic stroke occurred in 76.2% of males and 81.3% of females. Hypertension in hemorrhagic stroke was significantly higher than in ischemic type, non-significant difference between diabetes in ischemic and hemorrhagic stroke. Previous attacks were significantly higher in hemorrhagic than ischemic type. Sudden onset of presentation and coma on hospitalization were significantly high in hemorrhagic type.

Conclusions: Stroke increased with age. Ischemic stroke was more in old while hemorrhagic type in young patients. Males were more affected. No sex differences noted in relation to risk factors. Hemorrhagic stroke was more related to hypertension, previous attacks, sudden onset and coma.

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Abstract – WCN 2013

No: 2887

Topic: 3 – Stroke

Recombinant tissue plasminogen activator and stroke – Case report

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A case report: Patient 46 years old, male, smoker, with history of stroke in the immediate family without comorbidities (normal blood pressure with normal values of lipids and glucose). Patient is admitted for examination in emergency service after 2 h of acute weakness in right limbs and speech difficulties. Immediately an internal medicine and neurological examination was performed with CT examination showing normal findings. Afterwards fibrinolytic therapy was administered as per protocol for the treatment of ischemic stroke, with good tolerance of the drug and a good therapeutic response. Nine hours after the administration of the drug almost complete withdrawal of right motor deficit was present, but with persisting speech difficulties. Treatment was continued with low molecular weight heparin. On the second CT an infarction was seen in the vascular area of the left ACM, and on the third CT was showing almost complete regression of the ischemic area. The patient was released from hospital with latent weakness of limbs and right sensorimotor dysphasia.

Conclusion: Our experience of an acute stroke thrombolysis with recombinant tissue plasminogen activator shows that adequate thrombolysis in accordance with established treatment guidelines saves lives.

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Abstract – WCN 2013

No: 2893

Topic: 3 – Stroke

The locked-in plus syndrome

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Background: There has been discussion about the nomenclature and examination protocols of patients with disorders of consciousness (DOC) and related syndromes, as the locked-in syndrome (LIS). As publications increase finding brain responses to external stimuli, using fMRI or EEG, in these patients, there is need for a diagnosis scheme which best suits these patients. Locked-in-plus syndrome (LIPS) is proposed as a category for patients who show typical signs of LIS combined with DOC.

Objective: To collect clinical and instrumental data of these patients to develop a new classification for patients with LIS and LIPS.

Methods and material: Seven patients with ischemic pontine and other brain lesions were examined clinically, with standardized behavioral assessment scales and with MRI and functional MRI.

Results: All patients presented different degrees of arousal, consciousness, and other neurological and behavioral symptoms. The extent of structural brain damage and brain response in fMRI was found to be variable in spread.

Conclusion: The relevant differences between LIS and LIPS lie on the variety of additional pontine lesions in LIPS and in symptoms caused by these lesions: Frequently occurring features in LIPS include hypersomnia, frontal release signs, thalamic posturing of hand and/or feet. Rarely an akinetic mutism may occur.

Extra pontine brain lesions may occur in mesencephalic, thalamic and cerebellar brain structures, as well as occipital, temporal brain regions, depending on varieties of the vertebro-basilar artery blood supplying system. Due to the heterogeneity of the data collected, a new diagnostic category should be implemented in clinical practice.

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Abstract – WCN 2013

No: 2880

Topic: 3 – Stroke

Early stroke predictors in hypertensive obesity men aged 60–69: Pulse feeling and therapy

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Background: Hypertension is the major risk factor for stroke.

Aim: Research of early predictive value of pulse feeling in hypertension, complicated stroke.

Methods: Pulse was palpated in 12 positions in the points Cun, Guan, and Chi. ECG and computed tomography were investigated. Valuation of the pulse was made taking into account the gender, age, season, and given region. Data of rhythm, heart rate frequency, filling, tension, depth, length, hardness, form, width, and smoothness of pulse were determined. Pulse was investigated to the healthy with systolic and diastolic blood pressure less than 140/90 mm Hg respectively, in comparable 27 patients with II (basal Gr1) and in 36 patients also with II (control Gr2) degree of hypertension (WHO classification) survivors of stroke. Patients had BMI 30.2–34.6 kg/m².

Results: The healthy had balanced pulse. The patients a long time before stroke had the pulse disbalance, which was correlated with the level of blood pressure. Frequent and sudden weather changes (magnetic storm, the changeability of barometric pressure, relative humidity, air temperature), and stresses enhanced the disbalance of pulse among non-treated by acupuncture Gr2, that correlated with the increase of cases' frequency and the hardness of stroke. The patients treated by acupuncture and other therapy methods, in Gr1 had the best prognosis.

Conclusion: Pulse feeling early predicts stroke. Correct acupuncture using stress free needles based on the everyday results of PF normalizes the pathological pulse, in complex with the antihypertensive, neuro-protective treatment reduces the risk of stroke, improves prognosis and the life quality.

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No: 2788

Topic: 3 – Stroke

The prevalence of heart problems and risk factors in patient with ischemic stroke and their relationship with severity of stroke

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Background and objective: Stroke is the most common cause of morbidity and mortality. Ischemic stroke is a brain dysfunction due to vascular occlusion. Many studies are discussed about some risk factors for cerebral infarction such as: systolic and diastolic hypertension, diabetes, heart disease, cardiogenic emboli, hyperlipidemia, smoking, and taking OCPs. In this study, we describe the prevalence of heart problem and other important risk factors in ischemic stroke and their relationship with severity of stroke.

Patients and methods: The study population included patients with ischemic stroke admitted in neurology ward in Sanandaj Tohid Hospital between September 2011 and March 2012. Data and information were obtained from Hx, Ph. Ex, E.C.G, Echocardiography, and Biochemistry and it was analyzed using SPSS software and descriptive statistics.

Results: Of the 130 patients, 53.1% were male. The mean age of patients was 68 ± 12.9. The most important causes of stroke include: hypertension 83.1%, heart disease 60%, hyperlipidemia 39.7, diabetes 36.6% and 15% OCPs. 14.6% of patients showed atrial fibrillation based on admission E.C.G. Mitral regurgitation on echocardiography in 55 patients (42%) had the highest prevalence. In patients mean Ejection Fraction (EF) was 50.1 ± 10.7, and the average strength was 2.43 ± 1.7 in organs involved. Right and left extremities of muscle strength were shown to decrease with increasing age ($p = 0/04$ and $p = 0/07$), but ischemic lesion sizes were increased ($p = 0/008$).

Conclusion: The severity of stroke was increased by age. There were no significant difference between the severity of stroke in men and women, in smokers and non-smokers, those with diabetes, hyperlipidemia, hypertension and those who without these risk factors.

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No: 2864

Topic: 3 – Stroke

Sensitivity of the color trails test (CTT) in stroke and lacunar infarction

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Background: The color trails test (CTT) is a culture free neuropsychological test to measure sequencing, visual scanning, and speed of mental processing abilities. No clinical data are available about the utility of this test in the Greek population.

Objective: To provide clinical data on the sensitivity of the CTT in 2 groups of patients (6 month post stroke and lacunar infarction) and 2 groups of pair matched (in age) controls.

Patients and methods: Twenty-four patients exhibiting ischaemic stroke (IS) and 14 patients exhibiting lacunar infarction (LI) were compared to 38 controls. All patients were seen in the Neurology department of the Athens Navy Hospital and the Eginition Hospital of Athens between December 2011 and December 2012.

Results: The mean age for the IS group was 64.75 years (SD = 12.79) and the mean age for the LI group was 66.74 years (SD = 10.06). The Mann-Whitney statistical tests were used to find differences between the groups. Significant differences were found between the IS group and the controls (CTT1 $U = 132.500$, $p = 0.001$, CTT2 $U = 126.000$, $p = 0.001$), and the LI group and the controls (CTT1 $U = 66.500$, $p = 0.150$; CTT2 $U = 48.500$, $p = 0.021$).

Conclusion: The CTT can be a useful tool to measure the speed of mental processing in stroke and lacunar infarction. Further research is needed to prove its clinical utility in larger samples.

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Poster Session 2: Stroke (cont.)

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