Scientific adviser: Ion Moldovanu, MD, PhD, Associate professor, Department of Neurology no.1
Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova

Introduction. Altered State of Consciousness (ASC) is a phenomenon of major interest in the domain of modern neurosciences. Millennial experience and recent research provide convincing evidence that ASC such as trance, hypnosis, meditation, Samadhi and other ASC obtained through the use of oriental techniques are effective in the treatment of various diseases (I. Moldovanu, V. Vovc, 2015). The hypothesis of the study is that of proving the ability of modeling ASC using state-of-the art methods of brain neurostimulation with the aim of improving the therapeutic practices during treatment of chronic pain.
Aim of the study. Exploring the possibilities of ASC induction through Binaural Beat Stimulation (BBS).
Materials and methods. The study was conducted on 8 healthy volunteers aged 22-25 years. Stages of the study: 1. Pre-stimulation: Data collection through questionnaires with the aim of testing the psychological condition of the subjects. 2. Stimulation: performing BBS with 1-13Hz as well as the Placebo test. 3. Post-stimulation: evaluating the 5D-ASC questionnaire (5-Dimensional Altered States of Consciousness Rating Scale) with the aim of identifying and grading the ASC immediately after BBS (A. Dittrich, 2010)
Results. To summarize the 5D-ASC analysis performed on a subset of healthy subjects, two classes have been identified: 1. Affected by the ASC stimulation: 4 subjects (based on the inventory, average score of 5D-ASC > 10%, corresponding with the > 10 mm threshold of the 100 mm visual analog scale, as 100%) The differences are noticeable across all 5 scales of the 5D-ASC inventory, particularly on the VRS scale(Visionary restructuralization): Binaural beat stimulation: 31.50 vs Placebo: 13.75. Therefore, it can be concluded that the visual aspect of the ASC has been predominant. 2. Not affected by the ASC stimulation: 4 subjects (based on the inventory, average score of 5D-ASC < 10).
Conclusions. The results of the study have demonstrated that 50% of the healthy subjects are susceptible to the induction of altered states of consciousness through binaural beat stimulation. Further study is required in order to identify the susceptibility cause of particular subjects upon their induction into an ASC as well as validating the efficiency of the aforementioned states during the treatment of chronic pain together with other neurological and somatic pathologies.
Key words: altered state of consciousness, neurostimulation

65. FEATURES OF HYPOTHALAMIC SYNDROME IN ADOLESCENTS OF NORTHERN BUKOVINA

Author: **Iana Toderika**
Department of Endocrinology
Bukovinian State Medical University, Chernivtsi, Ukraine

Introduction. Juvenile hypothalamic syndrome of puberty age is a neuroendocrine syndrome of body rearrangement with hypothalamic, pituitary gland and other endocrine glands dysfunction. At the present stage, it is considered a predictor of metabolic syndrome in adults.
Aim of the study. To explore the functional state of the cardiovascular system in children who are sick with hypothalamic syndrome.
Materials and methods. We surveyed 52 children with hypothalamic syndrome (21 girls (40.4%) and 31 boys (59.6%)) treated in the Endocrinology department of the OCDL for the period from August to November 2017.
Results. The average age of patients was 13.6 ± 0.45 years (11-18 years). The parameters of physical development state of the endocrine, cardiovascular systems in children, the state of

brain vessels were studied. Patients with hypothalamic syndrome often complained of excess body weight (79.6%), increased appetite (82.6%), headache (78.5%) of varying intensity, increased blood pressure (38.5%), cardiac arrhythmias (31.8%), and irritability (22.7%). Obesity of various degrees was observed (overweight - 23.3%, first degree - 33.9%, second degree - 42.8%). The heart rate in children was basically normal 88.3%); in 11.7% there was a tachycardia. The level of blood pressure in most cases (73.6%) was normal, while in 17.3% of cases, episodic elevations were observed, and in 9.1% of cases there was a persistent arterial hypertension of the I degree. All patients have been electrocardiographically examined. In all cases a sinus rhythm was registered, in 79.2% - sinus brady- or tachyarrhythmia. Disorders of glucose tolerance were detected in 11 children. The level of C-peptide was elevated and a flat glycemic curve was observed in 16 children. The level of cholesterol and beta-lipoprotein was increased in 18 children. Microalbuminuria was observed in 23 children. Angiohypotonic type of cerebral hemodynamics was observed in 69.4% of the examined REG patients.

Conclusions. In most children with hypothalamic syndrome during puberty obesity of various degrees have been found; in 30.77% hyperinsulinism was observed, and another 44.23% of children presented microalbuminuria. In 26.4% of cases a tendency of arterial hypertension development was noticed, which is a predictor of metabolic syndrome.

Key words: hypothalamic syndrome, puberty age, clinical presentation, glucose tolerance

66. EPILEPSY WITH MYOCLONIC SEIZURES: ELECTROPHYSIOLOGICAL AND NEUROMORPHOLOGICAL PECULIARITIES

Authors: **Anatolie Vataman[1], Vitalie Chiosa[1,2], Dumitru Ciolac[1,2]**
Scientific adviser: Stanislav Groppa[1,2], MD, PhD, Professor, Department of Neurology no.1
[1]*Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova
[2]Institute of Emergency Medicine of the Republic of Moldova

Introduction. Recent electroencephalography (EEG) studies in epilepsy patients with myoclonic seizures have revealed distinct ictal and interictal discharges that rely on structurally and functionally interconnected cortical and/or subcortical networks. However, the neuroanatomical substrates in this type of seizures are insufficiently characterized.

Aim of the study. To explore the EEG patterns and associated cortical and subcortical (thalamic) structural abnormalities in epilepsy patients with myoclonic seizures.

Material and methods. For this purpose, were performed EEG recordings and brain magnetic resonance imaging (MRI) in 11 epilepsy patients (24 ± 6 years; 3 males) with myoclonic seizures and 11 healthy subjects (28 ± 4; 6 males). The MRIs were processed using FreeSurfer cross-sectional stream and the between-group differences in cortical thickness (CT) and thalamic volumes assessed.

Results. Interictal EEG revealed polyspike waves in 27% of patients and spike-slow waves in 37% and no discharges in 36% of patients. The frequency of discharges was > 3.5 Hz in 27%, 2.5 - 3.5 Hz in 36% and < 2.5 Hz in 9% of patients. Intermittent slow waves were recorded in 37% of patients and EEG background asymmetry in 9%. Photoparoxysmal response was obtained in 82% of patients. The analysis of ictal EEG disclosed generalized patterns: polyspike waves in 45% of patients, spike-slow waves in 28%, spike-slow waves with a frequency of ~ 3 Hz in 18% and of < 2 Hz in 9% of patients. A statistically significant difference ($p < 0.001$, uncorrected) of CT was found in the following clusters: left postcentral, supramarginal and rostral middle frontal cortices, and right lateral occipital, rostral middle frontal, supramarginal, pars triangularis and insular regions. CT correlated with the disease duration in the left superior, middle and inferior temporal and inferior parietal cortices, and right supramarginal, inferior parietal and rostral anterior cingulate cortices. Thalamic volumes in patients(right 7078.5 ±