101. DYSFUNCTIONAL BREATHING PATTERN IN PATIENTS WITH CHRONIC PAIN (MIGRAINE AND LOW BACK PAIN). A CLINICAL AND PHYSIOLOGICAL STUDY.

Botea Olga

Academic adviser: **Moldovanu Ion**, M.D., Ph.D., State Medical and Pharmaceutical University "N. Testemiţanu", Chişinău, Republic of Moldova

Introduction: Respiration is a physiological function situated strategically at the interface of mind and body. It is capable of operating automatically, but it can be brought under voluntary control. Changes in breathing pattern induced by chronic pain are a controversial subject of many researches in the psychophysiology of breathing. Interactions between emotional states, respiratory behaviors (such as fast and deep breathing, strained breathing, inhibited breathing) and physiological changes at the level of chemical blood composition and autonomic nervous system regulation play a role in disorders such as dysfunctional breathing syndrome, panic disorder, functional cardiac disorder, and chronic pain syndrome.

Purpose and Objectives: The influence of pain on the breathing pattern in patients with chronic migraine and chronic back pain.

Materials and methods: The study is based on 3 groups of subjects, 20 in each of groups: patients with chronic migraine (group 1), patients with chronic low back pain (group 2) and healthy subjects (group 3). Besides clinical and psychological tests, we used respiratory inductance plethysmography to measure volumes, times, frequency and thoracoabdominal asynchrony in different assays (in rest, apnea, hyperventilation, pain provocation with a cuff).

Results: In comparison with healthy subjects, patients with chronic pain have lower inspiratory volume ($p<0.05$), lower inspiratory ($p<0.01$) and expiratory ($p<0.05$) times and a faster breathing ($p<0.01$) in following assays: regular breathing, post apnea, and post hyperventilation. Also we found differences in breathing pattern between patients with chronic migraine and chronic low back pain. Patients with migraine, in rest have an abdominal breathing but those with low back pain breath thoracicly ($p<0.001$). After hyperventilation the pattern of the patients with chronic migraine and chronic back pain, was identical as in rest breathing, otherwise the amount of the asynchrony was more important ($p<0.01$). We also noticed that after the pain test patients with low back pain had lower inspiratory volumes ($p<0.05$) and shorter inspiratory times ($p<0.05$).

Conclusion: There are significant differences of breathing pattern in healthy subjects and patients with chronic pain, in rest breathing as well as in specific assays (apnea, hyperventilation, pain). Otherwise, the breathing pattern of patients with chronic migraine and chronic low back pain also differs, most common at thoracoabdominal asynchrony.

Keywords: Breathing pattern, chronic pain, migraine, low back pain, dysfunctional breathing

102. THE COMPARISON OF NEUROIMAGING CHARACTERISTICS OF CHRONIC PAIN IN MIGRAINE TO CHRONIC LOW BACK PAIN THROUGH FUNCTIONAL MRI

Brunchi Andrei

Academic adviser: **Moldovanu Ion**, M.D., Ph.D., professor, academician, Department of Neurology, University of Medicine and Pharmacy "Nicolae Testemiţanu", Chişinău, Republic of Moldova

Introduction: Despite the high frequency of migraineurs in the general population, the pathogenesis of this disorder is still unclear. There is a great need for a better understanding of the mechanisms underlying the pain, the accompanying symptoms, as well as the premonitory symptoms and the aura.

Purpose and objectives: Highlighting the clinical and clinical-neuroimagistic correlations in patients with chronic migraine and chronic back pain and to prove that chronic pain causes morphological and functional changes that occur in the brain.

Materials and Methods: The choice of methods and interpretation of results is guided by recent neuroimagstical research (functional MRI) that expounds on the involvement of different