

P1034 / #4209

Topic: AS08 Diseases of The Nervous System (including, infective and psychiatric)

FETAL TYPE OF POSTERIOR CEREBRAL ARTERY IN INDIAN POPULATION- A CADAVERIC STUDY WITH CLINICAL AND EMBRYOLOGICAL IMPLICATIONS

Mohammed Ansari, Dibakar Borthakur, Seema Singh

All India Institute of Medical Sciences, New Delhi, Anatomy, New Delhi, India

Fetal posterior cerebral artery (FPCA) is a variation in which the PCA is derived either completely (c-FPCA) or partially (p-FPCA) from the internal carotid artery (ICA) with a reported incidence of 4-29%. FPCA is said to be complete if there is no P1 segment connecting the PCA with the basilar artery, and partial if there exists a smaller segment connecting the two. We aimed to study the incidence of FPCA in cadaveric brains in Indian population and discuss the clinical implication of this embryological variant. 32 formalin fixed whole brains with intact circle of Willis were examined. Measurements were made with digital Vernier callipers. The origin of PCA, the P1 and P2 segments and the contribution by ICA were observed and documented. 2 specimens out of 32 (6.25%), had bilateral p-FPCA. One specimen (3.12%) had unilateral p-FPCA on the left side. Overall, 3 specimens (9.37%) showed p-FPCA wherein diameter of the P1 segment of PCA was observed to be less than that of the posterior communicating artery. FPCA is an important variation of the circle of Willis. If present, it can exacerbate the anterior circulation strokes by involving an additional component of PCA territory like occipital, posteroinferior parietal and inferomedial temporal lobes. Such variant can pose diagnostic and therapeutic challenge while treating cerebrovascular accident.

Declaration of Interest Statement: None

<https://doi.org/10.1016/j.ibneur.2023.08.1040>

P1035 / #3777

Topic: AS08 Diseases of The Nervous System (including, infective and psychiatric)

SYSTEMIC INFLAMMATION FOLLOWED BY CHRONIC UNPREDICTABLE STRESS IN RATS: THE MODEL OF “BINGE-DRINKING” OF SUCROSE SOLUTION

Jovana Arandelović¹, Jana Kojić¹, Bojan Batinić², Branka Divović Matović¹, Kristina Mirković¹, Anja Santrač¹, Miroslav Savić¹

¹ Faculty of pharmacy, University of Belgrade, Pharmacology, Beograd, Serbia

² Faculty of pharmacy, University of Belgrade, Physiology, Beograd, Serbia

Introduction: Depressive and anxiety disorders are common in the population. In addition to genetic predisposition, environmental factors contribute to their development. We aimed to develop a Dual-Hit (DH) model of depressive- and anxiety-like behavior that combines the effects of chronic mild unpredictable stress (CUMS) and inflammation induced by lipopolysaccharide, as recognized risk factors for emotional disorders.

Material and Methods: In the first week of DH protocol, adult Sprague-Dawley rats of both sexes were repeatedly exposed to lipopolysaccharide, followed by 4-week protocol for CUMS. Open field test (OF) and sucrose preference test (SPT) were performed at the beginning of each week and at the end of the experiment.

Results: Based on sucrose intake in the SPT at the end of the experiment, DH animals of both sexes could be polarized into resilient and susceptible ones, with the susceptible group having an increased sucrose intake compared to resilient and control groups. In the OF test, a reduction in the distance traveled by DH animals compared to control animals was observed at the final measurement. Also, a decrease in the percentage of distance traveled and time spent in the central zone was shown in DH model compared to control animals, which was independent of sex factor.

Conclusion: The results indicate an impaired emotional regulation in stress response of rats subjected to prolonged stressors, reminiscent of alcohol binge-drinking. Hence, DH model has the potential to model certain domains of depressive and anxiety disorders, and its further characterization is essential.

Declaration of Interest Statement: None

<https://doi.org/10.1016/j.ibneur.2023.08.1041>

P1036 / #2317

Topic: AS08 Diseases of The Nervous System (including, infective and psychiatric)

HILUS, A NEW CYTOGENIC HIPPOCAMPAL NICHE MODULATED BY STRESS EXPOSURE AND TREATMENT WITH ANTIDEPRESSANTS

Bruna Araújo^{1,2,3,4}, Joana Martins-Macedo^{1,2,3,4}, Tiago Silveira-Rosa^{1,3}, Francisco Soares Neves⁵, Patrícia Patrício^{1,3}, Eduardo Loureiro-Campos^{1,3}, Rita Caridade-Silva^{1,2,3,4}, Fábio Teixeira^{1,2,3,4}, Nuno Sousa^{1,3,6}, António Mateus-Pinheiro^{1,3}, Luísa Pinto^{1,3}

¹ Life and Health Sciences Research Institute (ICVS), School Of Medicine, Braga, Portugal

² Institute for Research and Innovation in Health, Neurobiology And Neurologic Disorders, Porto, Portugal

³ ICVS/3B's Associate Lab, Pt Government Associated Lab, Guimarães, Portugal

⁴ Center for Translational Health and Medical Biotechnology Research, School Of Health, Polytechnic University Of Porto, Porto, Portugal

⁵ Centre for Robotics and Autonomous Systems, Inesc Tec, Porto, Portugal

⁶ Clinical Academic Center (2CA), University Of Minho, Braga, Portugal

In the mammalian brain, the hippocampal subgranular zone (SGZ) is canonically accepted as an adult cytogenic region. The newborn cells residing in the SGZ are highly influenced by extrinsic/intrinsic modulators affecting their rate of production, as well as their fate. Anti-cytogenic factors (e.g., stressful conditions) negatively affect those events and, in contrast, the pro-cytogenic stimulus (e.g., treatment with antidepressants) impact them positively. This work revisited the adult hippocampal dentate gyrus (DG) niche to unveil the role of another sub-region, the Hilus. First, we assessed early and long-term survival and differentiation of the new hilar formed cells through BrdU administration. Then, we evaluated the impact of external stimuli on the hilar newborn pool: 1) acute and