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ACCEPTED ABSTRACTS

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Characteristics of post-ictal headaches in patients with epilepsy: A longitudinal study

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Since the 19th century, the relation between headaches and epilepsy has been studied. Despite that, according to the Global Burden of Disease Study headache disorders are the third cause of disability worldwide. Besides, in 2016 there were 45.9 million individuals with active epilepsy, 126.055 epilepsy-related deaths, and an epilepsy burden of 13.5 million disability-adjusted life years. It is also estimated that nearly 80% of people with epilepsy live in low- and middle-income countries. Especially the association of epilepsy and migrainous post-ictal headache (PIH) is interesting since they are paroxysmal, chronic and both often respond to antiepileptic drugs although their specific pathophysiological mechanisms are not well known. PIH is often a comorbidity of patients who suffer from epilepsy. However, this condition is usually neglected in the clinical practice because the motor manifestations and other features of a seizure are sometimes comparatively more dramatic and impactful for the patients and their families. The prevalence of PIH varies widely in the literature, probably because of distinct definitions of epilepsy-related headaches, methodological differences across reports and the short duration of most of the studies. In this way, the purpose of this study was to investigate the prevalence, characteristics, and clinical predictors of post-ictal headache in a long-term follow-up of patients with epilepsy in a tertiary center in Brazil.

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Defects in automatic processing of auditory channel brain information in children with developmental dyslexia

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Using event-related potential (ERP) technology to explore the characteristics of automatic processing of auditory brain information in children with developmental dyslexia and control groups in the state of non-attention. Selecting 18 children with developmental dyslexia and 18 children in the control group (male 21, female 15). The experiment presents a total of 300 sound stimuli, and auditory stimuli are divided into two kinds of 1000HZ and 1500HZ. The visual stimulus was 300 yellow and green car graphics. The participants were asked to recognize the color of the pictures and prepare for the keys. When testers see the green car, the left index finger presses the Z key, and when testers see the yellow car, the right index finger presses the M key. Presented on the headset do sound stimulus signal response. Recording 32 channel EEG, and analyzing the amplitude and latency of auditory mismatch negative waves (MMN) in different groups of subjects. The N1 amplitude of the developmental dyslexia group was significantly greater than that of the control group. At all electrode positions, the P3 amplitude of the control group was greater than the developmental dyslexia group. The right side of the auditory MMN amplitude of the control group is greater than the left side, and there is a right side advantage, while the left and right MMN amplitudes of the developmental dyslexia group are similar, and there is no right side advantage.The developmental dyslexia group spent more cognitive resources in the early pre-attentive processing stage, which led to the lack of attention resources for subsequent new stimuli. Developmental dyslexia children's auditory channels have defects in automatic processing of information.

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Hypertension and its related factors among patients with type 2 diabetes mellitus – a multi-hospital study in Bangladesh

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Hypertension and type 2 diabetes are associated with each other, and their coexistence is linked to diabetes-related complications such as stroke, coronary artery disease, kidney disease, retinopathy and diabetic foot. This study aimed to determine the prevalence, awareness and control of hypertension and factors associated with hypertension among people with type 2 diabetes mellitus (T2DM) in Bangladesh. A cross-sectional and retrospective study was conducted in 2017, and data from 1252 adults with T2DM were collected from six hospitals that specialise in diabetes care. These hospitals provide primary, secondary and tertiary healthcare and cover the rural and urban populations of Bangladesh. Cross-sectional data were collected from patients via face-to-face interviews, and retrospective data were collected from patients' past medical records (medical passport), locally known as the patients' guidebook or record book. The associations between hypertension and its related factors were examined using the bootstrapping method with multiple logistic regression to adjust for potential confounders. The mean age of participants was 55.14 (± 12.51) years. Hypertension was found to be present among 67.2% of participants, and 95.8% were aware that they had it. Of these, 79.5% attained the blood pressure control. The mean duration of diabetes was 10.86 (± 7.73) years. The variables that were found to be related to hypertension include an age of above 60 years, physical inactivity, being overweight or obese, a longer duration of diabetes and chronic kidney disease. The prevalence of hypertension as well as its awareness and control were very high among people with known type 2 diabetes. As there is a strong relationship between hypertension and diabetes, patients with diabetes should have their blood pressure regularly monitored to prevent major diabetes-related complications.

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Serum amyloid a-dependent inflammasome activation, BBB leakage and acute injury in experimental stroke

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Serum amyloid A (SAA) proteins increase dramatically in the blood following ischemic injury. The impact of SAAs in the pathogenesis of stroke was addressed in this study. Wildtype and SAA deficient mice were exposed to transient intraluminal middle cerebral artery occlusion (MCAo), examined for infarct volumes, behavioral changes, inflammatory markers, TUNEL staining, and BBB changes. In addition, over expression of SAA via transgene or viral vectors were examined in the SAA deficient mice. SAA levels were significantly increase following ischemia and reperfusion injury (IRI) and mice deficient in SAAs showed reduced infarct volumes and improved behavioral outcomes. SAA deficient mice showed a reduction in TUNEL staining, inflammation and decreased glial activation. Mice lacking both acute phase SAAs demonstrated a reduction in expression of the NLRP3 inflammasome protein and SAA/NLRP3 KO mice showed a slight improvement. Restoration of SAA expression via SAA tg mice or adenoviral expression reestablished the detrimental effects of SAA on infarct volume. A reduction in BBB permeability was seen in the SAA KO mice and anti-SAA antibody treatment reduced the effects on ischemic injury.The data suggest that acute phase SAAs play an injurious role in stroke outcomes. Therefore, therapeutics that target elevated SAA levels following stroke might help to reduce the harmful effects and improve long-term consequences.

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Studies have confirmed active and abnormal inflammation in the hematoma cavity of chronic subdural hematoma (CSDH).

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We retrospectively analyzed 245 CSDH patients who received conservative therapy (67 under close follow-up observation, 103 treated with atorvastatin and 75 treated with atorvastatin combined with dexamethasone) from 2014 to 2021 to evaluate the role of major inflammation-associated cells in the prognostic assessment of patients. Univariate and multivariate analyses were performed to assess the potential factors that could indicate the prognosis among the 103 patients who underwent observation only or atorvastatin therapy. Changes in peripheral blood inflammation-associated cells at different time points were compared between patients with good and poor outcomes. Furthermore, the changes in inflammatory cells in 75 patients who received atorvastatin combined with dexamethasone were analyzed.

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Oxytocin and ad diction treatment during tourism

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One of the effects of oxytocin is to create relaxation in animals. Furthermore, dance and music are two tools for relaxation. On the other hand, dance and music enhance the effects of oxytocin. Music can encourage social interactions and promote trust and cooperation in culturally (not genetically) compatible individuals, stimulating reward and motivation and enhancing learning and memory capacities. These effects of music on trust, empathy, reciprocal behaviors, group harmony, anxiety, and social decision-making resemble those of oxytocin. Psychological processes might induce the release of oxytocin, meaning that positive interactions, including friendly relationships, can promote health. The social interactions of daily life, along with a positive atmosphere, continuously activate the oxytocin system. Because both oxytocin and beta-endorphin are endogenous brain peptides, the data suggest that endogenous oxytocin might modulate the sensitivity of the CNS to repetitive or long term stimulation by opioids, hindering tolerance to endorphins. The brain opioid theory of social attachment has been proposed to explain the neural basis of social bonding. Brain endorphins are activated by a variety of social activities, including social touch, laughter, singing, dancing, and partying. Morphological evidence indicates the influence of oxytocin on the activity of the brain betaendorphin system in the hypothalamus . According to these pieces of evidence, endogenous oxytocin rises if individuals are involved in-group games and enter an empathetic and supportive environment. Oxytocin is released through a variety of nonharmful sensory stimuli, such as touch and heat. Nature reduces anxiety and stress, shortens the hospitalization period, lowers the heart rate, and augments guided focus. In addition to nonharmful sensory stimuli, oxytocin can also be released by the stimulation of other senses, such as the olfactory and visual, and by certain types of sounds and lights . Therefore, all the benefits of being in untouched and wonderful nature can be mediated by oxytocin. A combination of targeted non-drug group therapies throughout the day (such as Listen to music in groups, group dancing, group relaxation, group conversation sessions, watching clips that target individual emotions, and group massage) with oxytocin spray may be an effective way to treat all addictions. oxytocin appears to be able to stimulate the social reward axis . This ability of oxytocin, along with the participation in social activities and the use of recreational facilities and opportunities, will result in more potent and durable therapeutic effects.

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Improving functional recovery after severe spinal cord injury by a noninvasive dual functional approach of neuroprotection and neuromodulation.

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Despite tremendous unmet medical needs, there is no effective pharmacological treatment to promote functional recovery after spinal cord injury (SCI). Although multiple pathological events have been implicated in SCI, the development of a noninvasive pharmacological approach to simultaneously target the different mechanisms involved in SCI remains a formidable challenge. In this study, we report the development of a noninvasive nanodrug delivery system that consists of ROS-responsive amphiphilic copolymers and an encapsulated neurotransmitter-conjugated KCC2 agonist1,2. We show that upon intravenous administration, the nanodrugs were able to enter the injured spinal cord due to blood spinal cord barrier disruption and ROS-responsive disassembly. Remarkably, once in the injured spinal cord, these nanodrugs exhibited dual functions: scavenging ROS accumulated in the lesion to protect spared connections and increasing neuronal excitability in the injured spinal cord through targeted delivery of the KCC2 agonist to inhibitory neurons. Thus, the noninvasive treatment led to significant functional recovery in the rats with contusive SCI3. Together, these findings provide a much-needed translational pharmacological approach for treating severe SCI