

2nd Global Summit on **BRAIN DISORDERS AND THERAPEUTICS**

June 27-28, 2022 | Webinar

Effectiveness and tolerability of agomelatine versus mirtazapine in patients with depressive disorder**Leung Shek Ming***Registered Pharmacist and Lecturer, Hong Kong*

Agomelatine is an antidepressant with novel mechanism of action, and is also classified as an atypical antidepressant. It was proven in studies that it was effective for depression, anxiety and sleep. With the above properties, agomelatine had become an antidepressant that attracted researchers. Nevertheless, there were obstacles for researchers to evaluate it. Most of the head-to-head comparison trials were using SSRIs or SNRIs as comparators, but there were few, if any, studies comparing agomelatine with other atypical antidepressants. The clinical role of agomelatine among atypical antidepressants was not clear. This study compared the effectiveness and tolerability between agomelatine and mirtazapine, two atypical antidepressants with similar clinical role but different mechanisms, and identified the factors affecting the pattern of treatment result and therapeutic outcome of agomelatine by using two-year retrospective clinical data from psychiatric hospital at Hong Kong.

Biography

Mr. Shek Ming Leung has completed his Master of Clinical Pharmacy at the age of 25 from University of Sunderland, England. He had years of clinical experience in psychiatry and geriatric at Hong Kong. He is a lecturer of an institute at Hong Kong and has often been invited as guest lecturer for postregistration courses on topics of psychiatry.

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MRI Imaging of Double Pituitary Microadenoma: A rare preoperative diagnosis**Pratik Bhansali***Datta Meghe institute of medical sciences, Sawangi, (Meghe), Wardha.*

Pituitary adenomas are benign, single, monoclonal slow-growing neoplasms usually related to chemical overproduction [1]. Double pituitary adenomas are characterized as the occurrence of two adenomas in the single pituitary gland, both having typical immunohistochemical and histopathological highlights [2]. It is further categorized into contiguous and clearly distinct types. Clearly distinct tumours are recognized on neuroradiological imaging [3]. We present a case of a 21-year-old female presenting with a complaint of amenorrhea, which, on further evaluation, was found to be a case of double pituitary microadenoma, which is a rare finding on neuroimaging. Double pituitary adenoma is an infrequently occurring tumour, with an incidence rate of 0.9% in random pituitary autopsy samples [4]. Their prevalence rate ranges from 0.25 to 2.6% of post operated pituitary adenoma specimen [5-6]. As the use of high-field MRI has increased in the recent years for suspected pituitary pathologies, the preoperative detection of double pituitary adenoma has also increased, which is aided by cytological analysis. Majority of the cases reported are the findings on the autopsy samples, and we present a case report of young female as a preoperative finding. Pituitary adenomas are segregated on the basis of size: if measuring ≤ 10 mm, it is considered as microadenoma, and if > 10 mm, it is considered as macroadenoma [9]. Preoperative MRI imaging has a great role in identification of dual adenomas as its preoperative diagnosis may prevent chances of relapse and surgical failure.

Biography

Dr. Pratik Bhansali Qualified Bachelor of Medicine and Bachelor of Surgery (MBBS) degree, 2013, MGM Aurangabad, Maharashtra. Pursuing Post Graduation (Final year) in Radiodiagnosis at Datta Meghe Institute of Medical Sciences, Sawangi (Meghe), Wardha. Certification course of advanced life support and basic life support.

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Understanding brain Learning Disorders through control theory**M. Isabel García-Planas***Polytechnic University of Catalonia, Spain*

One of the brain disorders that is little studied and that causes great damage to those who suffer from it is dyscalculia. The lack of study on this alteration means that many cases remain undiagnosed or misdiagnosed, and therefore remain untreated. That is why we set out to find a way to make a correct diagnosis for the correct treatment. In this sense, we have been able to prove that by performing a BAEP and analyzing wave VI, the presence or absence of a learning disorder can be objectified. Another problem that arises is that of the evolution of the disorder, for which a good tool could be the modeling of brain activity through dynamic systems. The dynamics of brain neural networks play a considerable role in cognitive function and are therefore of interest in the commitment to understanding learning processes and the evolution of possible disorders. Exposure to brain stimuli makes it possible to describe the neural activity, marking the neural networks that are specifically involved in the process. In this work, in addition to delving into how to make a correct diagnosis, the evolution and possible control of linear dynamic systems that model the process in order to infer it are analyzed, taking advantage of brain plasticity that can facilitate the control that allows improvement of the dysfunction.

Biography

María Isabel García-Planas received the PhD in Mathematics from Universitat Politècnica de Catalunya, Barcelona Spain, in 1995. She joined the Department of Mathematics at the Universitat Politècnica de Catalunya, Barcelona, Spain as associate professor in 1996. Her work had been centred on Linear Algebra, Systems and Control Theory and Neural Networks. She has authored over two hundred papers having been cited more than 700 times (more than 300 after 2015), and serves on the referee on numerous indexed scientific journals. She has been plenary Speaker in several International Conferences. María Victoria García-Camba graduated in Medicine and Surgery from the University of Barcelona in 1984 and Master in Cognitive Neuroscience from the Isabel I de Castilla International University in 2016, she also holds a Master's degree in Sleep: Physiology and Medicine from the University of Murcia in the year 2016 and in Medicine Evaluator and Medical Expertise, University of Barcelona in 2017. She practices her profession as an adjunct physician in the Department of Clinical Neurophysiology of the Corachan Clinic, also exercising her work as a neurologist at the Comprehensive Ophthalmological Institute. Currently, her research is focused on neuroscience and learning difficulties.

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A Family of Rare Genetic Disorders

Chandra Mohan bhardwaj*SGT medical college ,hospital ,Gurgaon(122505), (Haryana) India*

McLeod neuroacanthocytosis syndrome is a ultra rare genetic disorder that occurs almost exclusively in males. It affects brain and spinal cord. Affected individual develops jerky movements of arms, legs, dystonia of face, tongue which ultimately leads to swallowing difficulty. McLeod neuroacanthocytosis is caused by mutation in XK gene. People with this syndrome have reduced muscle mass, muscle strength, suffers from peripheral neuropathy along with dilated cardiomyopathy. The troublesome features of dystonia, inability to take care of oneself, anxiety, depression begins in mid adulthood. It is a very rare genetic disorder with 150 cases reported worldwide. It is a X-linked recessive disorder. It is predominantly present in males with one X chromosome needs to be affected for males to manifest the condition. In females both X chromosomes should be affected in order to manifest the condition. It is of three types -Autosomal recessive chorea acanthocytosis, X linked McLeod syndrome, neurodegeneration with brain iron accumulation. Mean age of onset is 30 -40 years. The central nervous system abnormalities include choreiform movements, facial grimacing, generalized seizures, anxiety, depression. It is diagnosed by clinical features, peripheral blood smear showing acanthocytes. MRI brain will show atrophy of caudate nucleus, putamen. Genetic study is gold standard in classifying and diagnosing this condition. There is no treatment for his condition. It is managed on lines of conservative management.

Biography

Bhardwaj CM* completed his study in Resident internal medicine at SGT medical college hospital Gurgaon (122505), Haryana India

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Schizophrenia as a spiritual emergency**Anna Cornelia Beyer***Hull university, UK*

I am a scientist with schizophrenia. I am diagnosed with schizophrenia since 2002, but I also hold a PhD in Politics and am a member of Mensa and Intertel, the organisations of the top 1% of population in terms of IQ. I believe schizophrenia happens due to trauma, and God and spirit interfere. The voices that I hear have the quality of sounding like spirit communication. It all started out for me with a profound spiritual experience (channeling) in an emergency situation (2002, after 911). And it continued with angry spirit voices when I did not do life right, and nice spirit voices when I did life right. My voices become nice and helpful when I am a good person. I hear angry, sad voices when I am a bad person. With all my experience with schizophrenia, I believe Prof. Stanislaw Grof was correct in terming psychosis a 'spiritual emergency'. I think the voices that I hear are spirit communication and that I am sort of a psychic or a medium, without having been trained to be that and without having asked for it. In this talk, I will also explain how living a better spiritual lifestyle helps with coping with schizophrenia. This includes a vegetarian diet, abstinence from alcohol and drugs, prayer, faith, practicing loving kindness and all sorts of service to others, for example.

Biography

Dr. Anna Cornelia Beyer is a former senior lecturer. She holds a PhD in Politics from the University of Hull, UK, where she worked for 12 years until 2019. She is diagnosed with schizophrenia since 2002, and since 2008 researched this illness and published about it. She published extensively about schizophrenia and spirituality and healthy living. She also founded the new discipline of International Political Psychology

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A Unique Presentation of Fahr's Syndrome Secondary to Hypoparathyroidism**Jawad Mabood***Khyber Medical University ,Pakistan*

Fahr's syndrome is a rare condition characterized by deposition of bilateral symmetric calcium deposits in the basal ganglia and cerebellar region, leading to neurological and psychiatric sequelae. Herein we describe a case of a 62-year-old female presented with aphasia, bilateral lower limb rigidity, tremors, and gait disturbance. Her past medical history included thyroidectomy and radiation therapy 10 years back due to papillary carcinoma of the thyroid gland. On examination, she had poor speech, resting tremor, walking difficulty, and decreased power in all limbs with rigidity. Her Chvostek and Trousseau signs were positive. Serum investigations revealed hypocalcemia and low levels of parathyroid hormone and thyroid-stimulating hormone. Brain magnetic resonance imaging revealed calcified lesions in basal ganglia, thalami, and dentate nuclei. She was diagnosed with Fahr's syndrome due to hypoparathyroidism, and she was managed with calcium gluconate, vitamin D, salt-free albumin, and levodopa-carbidopa, improving her condition. The patient was then discharged on calcium gluconate, calcitriol, recombinant parathyroid hormone, and levodopa-carbidopa with follow-up.

Biography

Dr.Jawad Mabood completed his study at Khyber Medical University , Pakistan

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Innovative therapies for Alzheimer's disease: Progressing beyond Amyloid and Tau**Allison B. Reiss***NYU Long Island School of Medicine, USA*

Alzheimer's disease (AD) is an incurable progressive neurodegenerative disorder that results in memory loss and impaired learning, judgment, communication, and cognitive abilities. AD is the most common cause of dementia and one of the greatest healthcare challenges worldwide. Prescription drugs approved for use in AD patients help to manage symptoms, but do not change the course of the disease. A hallmark of AD is the accumulation of misfolded protein aggregates of tau and amyloid in the brain. Extensive research has been carried out for the development of treatments directed at reducing the burden of these proteins, but the results have been costly and disappointing. Novel approaches that can lead to real breakthroughs are urgently needed. While there has been progress in designing blood and CSF-based predictive and diagnostic biomarkers, the etiopathogenesis of AD remains unclear. In order to develop efficacious treatments, it is essential to understand underlying mechanisms at the molecular level. New tools are rapidly becoming available that will allow deeper understanding of cellular processes disrupted in AD neurons so that corrective action can be targeted specifically and with precision. Methodologies being considered to prevent or slow neuronal damage would address abnormalities in energy metabolism, increased oxidative stress, neuroinflammation and DNA damage. Successful therapy would result in preservation of neural connectivity, neuronal densities and synaptic signalling. Dr. Reiss will discuss potential innovative, feasible approaches to AD treatment building upon current and evolving knowledge of the AD landscape. She will offer new perspectives for ground-breaking research into AD treatment.

Biography

Allison B. Reiss is a Board Certified Internal Medicine physician who received her M.D. from SUNY Downstate School of Medicine then completed her residency at UMDNJ Rutgers. She is a molecular biologist, and Associate Professor of Medicine at NYU Long Island School of Medicine. Her laboratory, funded by the Alzheimer's Foundation of America, studies processes underlying neuronal loss in AD and pursues novel approaches to treating this debilitating disorder. Dr. Reiss has authored numerous peer-reviewed papers, is Section Editor-in-Chief, Neurology, for the journal *Medicina*, and Specialty Chief Editor of AD and Related Dementias for the journal *Frontiers in Aging Neuroscience*.

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Therapeutic potential of augmenting brain 2-arachidonoyl glycerol in mild traumatic brain injury**Yumin Zhang***Uniformed Services University of the Health Sciences, USA*

Mild traumatic brain injury (mTBI) is the major type of brain trauma and a risk factor for the late development of dementia and neurological diseases. Despite an increased understanding on the potential mechanisms of brain injury, there is still no effective treatment currently available. Using a repetitive mild traumatic brain injury (mTBI) mouse model, we found that treatment with MJN110, a novel inhibitor of the principal 2-arachidonoyl glycerol (2-AG) hydrolytic enzyme monoacylglycerol lipase dose-dependently ameliorated the impaired locomotor function, learning and memory. Treatment with MJN110 reduced inflammatory response and normalize the expression of glutamate and GABA receptor components in the TBI mouse brain. Furthermore, treatment with MJN110 also alleviated post-traumatic headache, one of the common symptoms, by augmenting the 2-AG levels and reducing the production of calcitonin gene related peptides (CGRP) in the trigeminal system. The therapeutic effects of MJN110 were partially mediated by activation of CB1 and CB2 cannabinoid receptors and were eliminated when it was co-administered with DO34, a novel inhibitor of the 2-AG biosynthetic enzymes. Our results suggest that augmentation of the endogenous levels of 2-AG can be therapeutically useful in the treatment of TBI and its associated symptoms by suppressing neuroinflammation and normalizing neurotransmission.

Biography

Dr. Yumin Zhang is Professor in the Department of Anatomy, Physiology and Genetics and the Department of Neuroscience at the Uniformed Services University of the Health Sciences in Bethesda, Maryland. The major research interest in Dr. Zhang's lab is to study neuron-glia interaction in culture and the animal models of several neurological diseases, including traumatic brain injury, neuropathic pain and multiple sclerosis. In particular, Dr. Zhang's lab is using pharmacological, biochemical, behavioral and genetic approaches to elucidate how modulation of the endocannabinoid system impacts the pathogenesis of neurological diseases.

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Gastrointestinal Micro biome and Neurologic Injury**Brandon Lucke-Wold**

University of Florida, USA

Communication between the enteric nervous system (ENS) of the gastrointestinal (GI) tract and the central nervous system (CNS) is vital for maintaining systemic homeostasis. Intrinsic and extrinsic neurological input of the gut regulates blood flow, peristalsis, hormone release, and immunological function. The health of the gut microbiome plays a vital role in regulating the overall function and well-being of the individual. Microbes release short-chain fatty acids (SCFAs) that regulate G-protein coupled receptors to mediate hormone release, neurotransmitter release (i.e. serotonin, dopamine, noradrenaline, γ -aminobutyric acid (GABA), acetylcholine, and histamine)), and regulate inflammation and mood. Further gaseous factors (i.e. nitric oxide) are important in regulating inflammation and have a response in injury. Neurologic injury such as ischemic stroke, spinal cord injury, traumatic brain injury, and hemorrhagic cerebrovascular lesions can all lead to gut dysbiosis. Additionally, unfavorable alterations in the composition of the microbiota may be associated with increased risk for these neurologic injuries due to increased pro-inflammatory molecules and clotting factors. Interventions such as probiotics, fecal microbiota transplantation, and oral SCFAs have been shown to stabilize and improve the composition of the microbiome. However, the effect this has on neurologic injury prevention and recovery has not been studied extensively. The purpose of this review is to elaborate on the complex relationship between the nervous system and the microbiome and to report how neurologic injury modulates the status of the microbiome. Finally, we will propose various interventions that may be beneficial in the recovery from neurologic injury.

Biography

Brandon Lucke-Wold was born and raised in Colorado Springs, CO. He graduated magna cum laude with a BS in Neuroscience and distinction in honors from Baylor University. He completed his MD/PhD, Master's in Clinical and Translational Research, and the Global Health Track at West Virginia University School of Medicine. His research focus was on traumatic brain injury, neurosurgical simulation, and stroke. At West Virginia University, he also served as a health coach for the Diabetes Prevention and Management program in Morgantown and Charleston, WV, which significantly improved health outcomes for participants. In addition to his research and public health projects, he is a co-founder of the biotechnology company Wright-Wold Scientific, the pharmaceutical company CTE cure, and was a science advocate on Capitol Hill through the Washington Fellow's program.

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Visual consequences of TBI in daily life**Steven H. Rauchman***The Fresno Institute of Neuroscience, USA*

The undesirable consequences of TBI are experienced by in excess of 5 million people spanning all ages in the United States alone [1]. The vast majority of TBI falls into the mild category and those affected may never be seen by a healthcare provider and never receive a formal diagnosis [2]. Some may enter an emergency department or urgent care facility immediately after an automobile collision or other type of accident and then be discharged with no follow-up. Routine CT and MRI scans of the brain are somewhat insensitive measures of mild TBI and often yield a normal reading. Unfortunately, despite normal imaging, patients may remain symptomatic months to years after injury [3]. Even if these individuals receive a comprehensive neurologic evaluation, effective interventions are lacking. Although visual symptoms and findings are common, they may go unnoticed by medical providers. The importance of ophthalmologic evaluation of such patients is underestimated. The enormous role of the brain in visual information processing is not subsumed within a standard eye exam [4,5]. There is a need for coordination among specialists, including ophthalmologists, in order to address TBI-related losses in ability to gather and process huge amounts of visual data, processing of which is essential for everyday life [6,7]. This presentation will cover practical issues related to the diagnosis and management of TBI and its visual sequelae from a clinical ophthalmologic perspective.

Biography

Steven H Rauchman is a Board Certified Ophthalmologist who received his M.D. from UCSF School of Medicine as a Regent's Scholar and completed an Ophthalmology Residency at Boston University. Dr. Rauchman has served as Principal Investigator on numerous multi-center clinical trials on a variety of clinical investigations within ophthalmology. Dr. Rauchman was recently first author on a large retrospective Covid-19 study published in Journal of Clinical Medicine and was first author on a publication on traumatic brain injury (TBI) in Neurology International. Dr Rauchman is a review editor for Frontiers in Aging Neuroscience and Research Topic Editor for "Manifestations of mild-to-moderate traumatic brain injury" for Frontiers in Neuroscience.

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Reading and Writing in a Diglossic Context: A Multifaceted Perspective**Aula Khatteb Abu-Liel***University of Haifa, Haifa, Israel*

Arabic is considered a classical case of diglossia because conventionally, one form of Arabic is spoken (SA) and another is used in the domain of written language (MSA). In the recent past, globalization of English-based technology, together with the absence of Arabic supporting keyboards, had resulted in the reliance on Latin script as the main writing system when communicating through computers (CMC). This writing was known as 'Arabizi', which represents Spoken Arabic (SA). The advent of Arabic supporting software has allowed the writing of SA in Arabic letters, but has not completely eradicated Arabizi. Although the use of Arabizi today is less ubiquitous than it was half a decade ago, its effects on the cognitive processes involved in literacy are scientifically interesting. The present chapter explores the way that Arabizi affected reading, writing, and personal and social dynamics in a sample of Arabic-speaking adolescents in 2014. We focused on three areas of inquiry: The first aimed to provide a description of writing practices, perceptions, and attitudes for the two writing systems, Arabizi and MSA. The second examined literacy skills and abilities in MSA and Arabizi. And the third tried to evaluate the stability of the Arabizi orthography in order to evaluate to which instance?? Extent? it is standardized.

Biography

Aula Khatteb Abu-Liel got her Phd degree from the department of Learning disorders, in Haifa university. Aula started her career as a teacher in special education, then she worked at the laboratory for diagnosing learning disorders at Haifa university. As an outstanding student for MA degree she got the Werner Otto Scholarship. Further as an outstanding student in the Phd degree, she got a grant from the Edmond J. Safra Brain Research Center for the Study of Learning Disabilities, in addition to the Feitelson prize. Since 2010 had been working as a lecturer at Oranim Academic College and at the Arab College of Education. In 2022 she Began her postdoctoral studies under the guidance of Prof. Elinor Saiegh-Haddad at Bar-Ilan University. Her researches presented at the International research workshop of the Israel science foundation, 2018, Research Council of Canada, 2020 and conference Washington, DC- 2021.

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A Better Understanding of Moyamoya in Trisomy 21: A Systematic Review**Arowa Abdelgadir***California Institute of Behavioral Neurosciences & Psychology, USA*

Internal carotid artery stenosis or stenosis of the middle, anterior, or posterior cerebral arteries with significant collateral development is known as Moyamoya disease. In angiographic exams, this collateral vessel displays a distinct appearance. When moyamoya disease occurs in association with other systemic illnesses, it is referred to as moyamoya syndrome. Down syndrome is one of the association. Moyamoya syndrome is quite common in Down syndrome patients, and the reason is unknown. The majority of individuals present in their first decade, with clinical manifestations changing according to age. In persons with trisomy 21, the cause of moyamoya syndrome is uncertain. The goal of this study was to understand more about the etiology and pathophysiology of moyamoya syndrome in Down syndrome patients. This systematic review followed the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) standards. A comprehensive database search was used to find several papers related to this topic. After applying inclusion and exclusion criteria and examining the quality of each work, they were reduced to a final number of ten papers. In these final studies, several theories were proposed to explain the link between moyamoya syndrome and trisomy 21. Patients with trisomy 21 have a hereditary propensity to vascular issues. The function and flexibility of the arteries are influenced by a number of proteins on chromosome 21. Patients with moyamoya commonly have mutations in the RNF213 protein gene.

Biography

Dr. Arowa Abdelgadir completed her study in California Institute of Behavioral Neurosciences & Psychology, Fairfield, CA, USA. And she is a Medical registrar in Naas General Hospital, Naas, Co. Kildare, Ireland.