Coalesce Research Group

7th International Conference on

NEUROLOGY AND BRAIN DISORDERS

November 08-09, 2023 | Dubai, UAE

Coalesce Research Group
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Scientific Program

Scientific Program

Wednesday
November 08, 2023

7th International Conference on
Neurology and Brain Disorders

Day 1 - November 08, 2023	
Meeting Hall: El Dhiyafa 2	
08:45 - 09:15	Registration
09:15 - 09:30	Introduction
Keynote Presentations	
9.30 - 10.10	Novel Therapeutic Modalities for the Treatment of Neurodegenerative Diseases
	Suhail Rasool, True Binding Inc.., USA
10.10 - 10.50	Characteristics of Myelin and Neuronal Density Distributions in the Marmoset Claustrum
	Razvan Gamanut, Monash University, Australia
Group Photo (10.50 - 11.00)	
Networks & Refreshments (11.00 - 11.30)@ Banquet Pre Function Area	
Oral Presentations	
Chair	**Suhail Rasool,** True Binding Inc.., USA
Co-Chair	**Rakhimbaeva Gulnora Sattarovna,** Tashkent Medical Academy, Uzbekistan
Sessions:	Brain Stimulation and Imaging, Alzheimers, Dementia and Parkinsons Diseases, Pediatric Neurology and Epilepsy , Migraine and Facial Pain, Brain Stimulation and Imaging, Traumatic Brain Injury and Behavioral Neuroscience, Neurology Case Reports and Neurosurgery and Spine
11.30 - 11.55	The Role of Adhesion Molecules and Neuroinflammation in the Pathogenenesis of Ischemic Stroke
	Rakhimbaeva Gulnora Sattarovna and Abdurakhmonova Kutlibika Bakhtiyorkizi, Tashkent Medical Academy, Uzbekistan
11.55 - 12.20	Cybernics Treatment and Independence Living Improvement with Wearable Cyborg HAL Trunk Unit for Parkinsonian Gait Disturbances
	Akira Uehara, University of Tsukuba, Japan
12.20 - 12.45	Inflammation Markers in Parkinson's Disease
	Madjidova.Y.N, Tashkent Pediatric Medical Institute, Uzbekistan
12.45 - 13.10	Imaging Findings of the MRI Brain in Children Presenting with Seizures: A Prospective Cross-sectional Study
	Mahnoor Hafeez, Dow University of Health Sciences, Pakistan
Lunch (13.10 - 14.00) @ All Day Dining Restaurant	
14.00 - 14.25	New Daily Persistent Headache: A Systematic Review on an Enigmatic Disorder
	Nooshin Yamani, University of Copenhagen, Denmark
14.25 - 14.50	Exploring A Novel Treatment Site for Post-Traumatic Headache (PTH) using Transcranial Magnetic Stimulation
	Mohammed Ahmed, Kaizen Brain Center, USA
14.50 - 15.15	Post-Traumatic Headache (PTH): Possible New Therapeutic Target for Transcranial Magnetic Stimulation?
	Mohammed Ahmed, Kaizen Brain Center, USA

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15.15 - 15.40	A Rare Case of Intramedullary Thoracic Spinal Cord Abscess Mimicking Tumor: Diagnosis and Management Challenges
	Naeem Ul Haq, Mardan Medical Complex (MMC), Pakistan
15.40 - 16.05	Minimally Invasive Posterolateral Approach for Surgical Resection of Dumbbell Tumors of the Lumbar Spine
	Tuigynov Zhandos, National Center for Neurosurgery, Kazakhstan
Networks & Refreshments (16:05 - 16:30) @ Banquet Pre Function Area	
16.30 - 16.55	Correction of Autism Spectrum Disorders in Children by Microcurrent Reflexology Method
	Khusenova N.T, Tashkent Pediatric Medical Institute, Uzbekistan
16.55 - 17.20	Role of P11 Through Serotonergic & Glutamatergic Pathways in LID
	Alireza Noori, Iran University of Medical Sciences, Iran
Day 1 Concludes followed by Award Ceremony	

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Thursday
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Day 2 - November 09, 2023	
Meeting Hall: El Dhiyafa 2	
Keynote Presentations	
10.00 - 10.40	Trigeminal Neuralgia, Differential Diagnosis and Update on Treatment
	Hossein Ansari, Kaizen Brain Center, University of California, San Diego, USA
10.40 - 11.20	Developmental and Epileptic Encephalopathies: Analysis of A Cohort of Children with Genotype/Phenotype Correlation
	Gabriella Di Rosa, University of Messina, Italy
Refreshments Break (11:20 - 11.45) @Banquet Pre Function Area	
Oral Presentations	
Chair	**Madjidova.Y.N,** Tashkent Pediatric Medical Institute, Uzbekistan
Co-Chair	**Botir Daminov,** Tash PMI, Uzebekisthan
Sessions:	Migraine and Facial Pain, Neurological Disorders and Stroke, Pediatric Neurology and Epilepsy, Clinical Neurophysiology and Stroke, Brain Stimulation and Imaging, Molecular Neuroscience and Neurodegeneration
11.45 - 12.10	Potential Reversal of Alzheimer's Disease pathology by Antibody TB006 Targeting Galectin-3, a Major Cause of Oligomerization of Amyloid Proteins
	Suhail Rasool, True Binding Inc.., USA
12.10 - 12.35	Synergistic Effect of Brain Stimulation with Constraint Induced Movement Therapy for Functional Neuroplasticity in Children with Hemiparetic Cerebral Palsy: A Randomized Control Trial
	Mufti Aliya, All India Institute of Medical Sciences, India
12.35 - 13.00	To Study the Effectiveness of a New Consensus on Improving the Biomechanics of the Ankle Joint In Patients After Stroke
	Madjidova.Y.N, Tashkent Pediatric Medical Institute, Uzbekistan
Lunch (13.00 - 14.00) @ All Day Dining Restaurant	
14.00 - 14.25	Autism and its Treatment with Microcurrent Reflexotherapy
	Khusenova N.T, Tashkent Pediatric Medical Institute, Uzbekistan
Poster Presentations	
Poster Judge	**Hossein Ansari,** Kaizen Brain Center, University of California, San Diego, USA
Poster Judge	**Suhail Rasool,** True Binding Inc.., USA
14.25 - 14.40	Unmasking Autoimmune Encephalitis: Hidden Threats to Brain Health
	Harjeet Kaur, Universidad Central del Caribe, Puerto Rico
14.40 - 14.55	Clinical Diagnostic Features of Parkinson's Disease Dementia
	Okhunova D.A, Tashkent Medical Academy, Uzbekistan
14.55 - 15.10	Vertebro-Basilar Insufficiency: Neurophysiological Features
	Aripova Feruza Mirzaxodjayevna, Republican Specialized Center for Surgical Angioneurology, Uzbekistan

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15.10 - 15.25	Post-Stroke Epilepsy: Management of Diagnosis and Introduction of Patients
	Sobirova Donokhon Saidaskarxanovna, 7th Clinical City Hospital, Uzbekistan
15.25 - 15.40	Short-Term Restriction of Hypertensive ISIAH Rats Leads to Activation of Hypothalamic Neurons and Increased Blood Pressure Levels
	Yulia V. Makovka, Siberian Branch of Russian Academy of Sciences, Russia
15.40 - 15.55	Characteristics of Pain Syndrome in Postherpetic Neuralgia of the Trigeminal Nerve with Comorbid Herpes Virus Infection
	Rasulova Raykhon Pardaevna, Termez Branch of TMA, Uzbekistan
15.55 - 16.10	The Role of Immune-Inflammatory Biomarkersin 3-Months Outcome in Acute Ischemic Stroke
	Abdurakhmonova Kutlibika Bakhtiyorkizi, Tashkent Medical Academy, Uzbekistan
Networks & Refreshments (16:10 - 16:30)@ Banquet Pre Function Area	
16.30 - 16.45	Clinical Pathogenetic Features and The Differentiated Approaches to Treatment of the Arterial Hypertension Associated with Chronic Cerebrovascular Insufficiency
	Nargiza Makhkamova, Republican Spesialized Centre of Cardiology, Uzbekistan
16.45 - 17.00	Assessment of Daytime Sleepness in Patients with Epileptic Seizures During Sleep
	Kalandarova S.X, Tashkent Medical Academy, Uzbekistan
17.00 - 17.15	Fundamentals of Neurorehabilitation of Patients with Fine Motor Disorders and the Mobile Application "Stroke Assist"
	D.K. Rasulova, Tashkent Medical Academy, Uzbekistan
17.15 - 17.30	Delayed Speech Development in Children the Consequences of using Mobile Applications together with Medications in their Treatment
	Qosimova Zarrina Aslonovna, Tashkent Medical Academy, Uzbekistan
17.30 - 17.45	Clinical Course of Cavernous Sinus Thrombosis after COVID-19
	Said-Ahmedova S.K, Tashkent Medical Academy, Uzbekistan
17.45 - 18.00	Clinical and Neurological Characteristics of Patients With Chronic Cerebral Ischemia
	Mirkhayotova N.A, Tashkent Medical Academy, Uzbekistan
18.00 - 18.15	The Effects of Anticonvulsants on Vitamin D Levels and Bone Metabolism in Women with Epilepsy
	Yusupova D.Y, Tashkent Medical Academy, Uzbekistan
18.15 - 18.30	The Significance of Dhea-S and Vegf Markers in Patients whith Frailty Syndrome
	Yusupova D.Y, Tashkent Medical Academy, Uzbekistan
Day 2 Concludes	
Panel Discussion - Awards & Closing Ceremony followed by Vote of Thanks	
Virtual Presentations	

Scientific Program

Wednesday
November 08, 2023

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Neurology and Brain Disorders

Day 1 (November 08, 2023	
11.00 - 11.15	Introduction
Oral Presentations	
11.15: 11.45	Dementia Application for Diagnosis & Tracking (DADT)
	Soubhik, Manastik, India
11.45: 12.15	Cryptochlorogenic Alleviates the Jmjd3-Mediated Endothelial Cells Injury in Alzheimer's Disease
	Fei Guo, Ningbo University, China
12.15 - 12.45	Endovascular Therapy for Acute Tandem Occlusions Due to Internal Carotid Artery Atherosclerotic
	Li Wei, Hainan Medical University, China
12.45 - 13.15	Association Between Iron Deficiency Anaemia and Ischaemic Stroke
	Preethy Manoj, Royal College of Surgeons in Ireland, Ireland
Lunch(13.15 - 13.45)	
13.45 - 14.15	Radiolabeling FTY-720 with [99mTc]Tc: Assessing Biological Affinity for Neurodegenerative Diseases
	Emre Uygur, Manisa Celal Bayar University, Turkey
14.15 - 14.45	Neurophysiological Grading Tool of Ulnar Nerve Entrapment Across Wrist and across Elbow with Case Presentation
	Salim Hirani, Ysbyty Gwynedd Hospital, United Kingdom
14.45 - 15.15	Comparison of rhFGF18 and rhGDF11 Safety, Efficacy, and Mechanistic Activity in the Treatment of Ischemic Stroke
	Alex Goraltchouk, Remedium Bio, USA
15.15 - 15.45	The Fractal Geometry of Alzheimer's Disease Toward Better Cognitive Assessment: Challenges and Steps Forward
	Tahmineh Azizi, University of Wisconsin-Madison, USA
15.45 - 16.15	The Effect of Donepezil on Aphasia Post-Stroke: A Literature Review
	Salman Elgharbawy, Southern illinois University, USA
Day 1 Concluded	

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Day 2 (November 09, 2023	
11.00 -11.15	Introduction
Oral Presentations	
11.00 - 11.30	Neuropsychology of Addiction: The Role of Aging In Declining Executive Functioning Young Adult with Drug Addiction
	Shameem Fatima, COMSATS University Islamabad, Pakistan
11.30 - 12.00	Genome Based Therapeutics: Era of Precision Medicine in Genetic Epilepsies and Epileptic Encephalopathies
	Smilu Mohanlal, Aster Malabar Institute of Medical Sciences, India
Poster Presentations	
12.00 - 12.15	Clinical and Genetic Characteristics of Patients with Ischemic Stroke, A Prospective Study of the Risks of Recurrent Strokes, Machine Learning
	Anastasia S. Gunchenko, Pirogov Russian National Research Medical University, Russian Federation
12.15 - 12.30	Blood Hyperviscosity Syndrome Through Essential Polycythemia - Cause of Ischemic Stroke
	Andrei-Lucian Zaharia, Dunarea de Jos University of Galati, Romania
12.30 - 12.45	Post-Stroke Epileptic Seizures
	Ilxomova S.X, Tashkent Medical Academy, Uzbekistan
12.45 - 13.00	A Rare Presentation of Wound Botulism Neurotoxicity: A Case Report
	Mai Elrayes, Northern Care Alliance NHS Trust, United Kingdom
13.00 - 13.15	EBV Evades Immune Surveillance in the Multiple Sclerosis Brain Through the PD-1/PDL1 Axis
	B. Serafini, Istituto Superiore di Sanità, Italy

Supporting Organizations

Tashkent Medical Academy
Uzbekistan

Tashkent Medical Academy is one of the Central Asian's leading research and teaching university with Multidisciplinary Clinic

Tashkent Pediatric Medical Institute
Uzbekistan

Tashkent Pediatric Medical Institute was organized in 1972 and is the leading institute in the direction of education "Pediatrics". Over 46 years of its work, more than 29,500 highly qualified doctors have been trained

Day-1
Keynote Presentations

NOVEL THERAPEUTIC MODALITIES FOR THE TREATMENT OF NEURODEGENERATIVE DISEASES

Suhail Rasool
TrueBinding, Inc, USA

Abstract

Background: It is well established that vaccination of humans and transgenic animals against fibrillar Aβ prevents amyloid accumulation in plaques and preserves cognitive function in transgenic mouse models. However, autoimmune side effects have halted the development of vaccines based on full length human Aβ. Further development of an effective vaccine depends on overcoming these side effects while maintaining an effective immune response.

Objective: To study the effect of vaccination against generic oligomer epitopes, Aβ oligomers, islet amyloid polypeptide oligomers, random peptide oligomer (3A), and Aβ fibrils were used to vaccinate 3xTg-AD, which develop a progressive accumulation of plaques and cognitive impairment. Subcutaneous administration of these antigens markedly reduced total plaque load (Aβ burden) and improved cognitive function in the 3xTg-AD mouse brains as compared to controls

Methods: The effects of 3A peptide were tested in two AD mouse models (two transgenic mouse models (APPSwe, 3xTgAD). After treatment, a spatial memory function test was conducted, followed by biochemical and immunohistochemical characterizations.

Results: Subcutaneous administration of these antigens markedly reduced total plaque load (Aβ burden) and improved cognitive function in the 3xTg-AD mouse brains as compared to controls. We demonstrated that vaccination with this nonhuman amyloid oligomer generated high titers of specifically antibodies recognizing Aβ oligomers, which in turn inhibited accumulation of Aβ pathology in mice. In addition to amyloid plaques, another hallmark of AD is tau pathology.

Conclusion: It was found that there was a significant decline in the level of hyper-phosphorylated tau following vaccination. We have previously shown that immunization with 3A peptide improves cognitive function and clears amyloid plaques in Tg2576 mice, which provides a novel strategy of AD therapy. Here, we have shown that vaccination with 3A peptide in 3xTg-AD mice not only clears amyloid plaques but also extensively clears abnormal tau in brain.

Biography

Suhail Rasool is the Director of Neurodegenerative Diseases Research division at Truebinding Inc. His work involves developing diagnostic biomarkers and therapeutic modalities for AD and other neurodegenerative diseases. His major contributions from the past five years include: in vivo and ex vivo characterization of molecular probes and aggregates of various amyloid proteins for the diagnosis of AD, Parkinson's disease, prion disease and cerebral amyloid angiopathy; in vivo and ex vivo characterization of molecular probes and aggregates of various amyloid proteins for the diagnosis of Traumatic brain injury (TBI) using the retina as a window; preclinical work for a novel Alzheimer's disease diagnostic candidate; and investigation of fluorescent probes capable of labeling and enhancing visualization of amyloids in the retina. In late 2021, U.S. Food and Drug Administration (FDA) has granted clearance of the Investigational New Drug (IND) application to proceed with the clinical development of its lead product candidate, TB006, for the treatment of Alzheimer's Disease.

CHARACTERISTICS OF MYELIN AND NEURONAL DENSITY DISTRIBUTIONS IN THE MARMOSET CLAUSTRUM

Răzvan Gămănuț, Thomas Godfrey, Nafiseh Atapour, Bianca Gămănuț, David Reser and Marcello Rosa

Monash University, Australia

Abstract

Background: The claustrum is a long, band-like group of neurons located underneath the lateral orbitofrontal cortex. It remains one of the least understood parts of the mammalian nervous system. Claustral lesions are associated with changes in cognition, perception and mental states due to its landmark feature: the unusually high number of bidirectional connections with the cerebral cortex. This feature inspired Francis Crick and Cristof Koch to formulate the most influential hypothesis about its function: that it coordinates the multitudes of neocortical areas into coherence.

One characteristic that contributes to elucidating the function of the claustrum is its anatomical mesoscopic structure. Specifically, the levels of myelination and neuronal densities can delineate subdivisions of the claustrum and reveal trends in circuit organization.

Objective: We quantified the variations in the density of neuronal numbers, together with the amount of myelinated fibres and their orientations in the claustrum of marmosets in order to have their detailed spatial distributions.

Methods: For myelination, we developed a pipeline to analyse quantitatively the densities of myelin fibres and their local orientations. For neuronal densities, we created Voronoi tessellations of the mapped neurons from NeuN stainings, in order to obtain the maximum resolution of neuronal densities. The sections stained for myelin and the ones immunostained for NeuN came from the same subjects, allowing direct comparison of the two characteristics.

Results: After superimposing the results from the two methods, we found that the marmoset claustrum contains many subdivisions. The two distributions do not vary in the same way, suggesting important fluctuations of the circuit structure.

Conclusion: Although it appears uniform in composition in unprocessed sections, the claustrum contains modules. Together with results from connectivity studies, this suggests that the coordination of the cortex postulated by Crick and Koch is done via specific subnetworks, which the claustrum switches on and off.

Biography

Razvan Gamanut has his expertise in comparative connectomics and computational neuroanatomy. His PhD results demonstrate new principles in the organization of the cerebral cortex architecture across species (mouse, rat, microcebus and macaque). He found that, across species, the cortical network is much denser than previously thought. However, as the brain gets larger, there are fewer and much weaker long-distance connections, predicting that long-distance cortico-cortical connections in the much-expanded human cortex could be very weak. This implies an increased susceptibility to disconnection syndromes such as Alzheimer disease and schizophrenia. In his postdoctoral work he conducted anatomy experiments in marmosets, which revealed the composition of the claustrum and the neuronal connections originating in the claustrum and projecting to a group of regions in the cerebral cortex called the Default Mode Network.

Day-1
Oral Presentations

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THE ROLE OF ADHESION MOLECULES AND NEUROINFLAMMATION IN THE PATHOGENENESIS OF ISCHEMIC STROKE.

Rakhimbaeva Gulnora Sattarovna and Abdurakhmonova Kutlibika Bakhtiyor Kizi

Tashkent Medical Academy, Uzbekistan

Abstract

Background: Inflammation is known to worsen cerebral damage at the acute phase of stroke. In this setting, intracellular adhesion molecule-1(ICAM-1) and high sensitivity C-reactive protein (hs-CRP) which are elevated in atherosclerosis and cardiovascular diseases are important inflammatory markers in patients with acute ischemic stroke.

Aim: The purpose of the study was to assess the correlation between ICAM-1 and hs-CRP and the prognosis of acute ischemic stroke (AIS).

Materials and Methods: 86 patient were enrolled in this study. Fasting blood of all patients was collected within 24 hours of admission. Stroke severity was assessed by using National Institutes of Health Stroke Scale(NIHSS). The modified Rankin Score (mRS) was used to determine the clinical outcome 3 months after stroke. According to the outcomes, patients were divided into two groups: patient with good and poor outcomes. The good prognosis was mRS < 3, while poor prognosis was mRS ≥ 3.

Results: The levels of serum ICAM-1 in patients with AIS in the good prognosis group and the poor prognosis group were 122.4 ± 11.8 and 154.2 ± 12.8 pg/ml, respectively. When it comes to hs-CRP, its concentration were 1.9 [0.8–3.4] μg/ml in good outcome group, while 2.8 [1.2–9.9] μg/ml in poor outcome group. According to the logistic regression analyses, ICAM-1 and hs-CRP are independent predictors in patients with AIS (p = 0,007 and p < 0.05, respectively).

Conclusion: The serum ICAM-1 and hs-CRP concentrations in patients with AIS with poor prognosis were remarkably higher than that in the good prognosis patients. The baseline concentration of ICAM-1 and hs-CRP can predict the prognosis of AIS.

Biography

Rakhimbaeva Gulnora Sattarovna is a professor and head of neurology department at Tashkent Medical Academy. Moreover, She is a vice-president of International league against epilepsy (ILAE) Uzbekistan and member of European Academy of Neurology(EAN). She is an author of more than 400 articles and thesis. She has awarded "Excellence in Public Health of the Republic of Uzbekistan, 2015" and "The best doctor of the year, Uzbekistan 2018". Her main area of practical experience is cerebrovascular diseases and vascular dementia.

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CYBERNICS TREATMENT AND INDEPENDENCE LIVING IMPROVEMENT WITH WEARABLE CYBORG HAL TRUNK UNIT FOR PARKINSONIAN GAIT DISTURBANCES

Akira Uehara

University of Tsukuba, Japan

Abstract

Background: Cybernic treatment can construct an interactive bio-feedback (iBF) loop between an one's nervous system and the worn cyborg Hybrid Assistive Limb (HAL); this treatment has been applied for several intractable neuromuscular disorders such as spinal muscular atrophy, bulbar spinal muscular atrophy, amyotrophic lateral sclerosis, muscular dystrophy, Charcot-Marie Tooth disease, distal myopathy, sporadic inclusion body myositis, or congenital myopathy. Hence, it is of interest to determine its potential for parkinsonian patients.

Objective: To confirm the feasibility of using the wearable cyborg HAL trunk unit, which promotes lateral sway synchronization with a wearer's motion, to improve the gait disturbance of parkinsonian patients.

Methods: The wearable cyborg HAL trunk unit establishes functional and physical synchronization with the wearer by providing lateral cyclic forces to the chest in the form of somatosensory and motor cues. To confirm the feasibility of its use for improving parkinsonian gait disturbances, we conducted experiments with three Parkinson's disease patients and two patients with progressive supranuclear palsy.

Results: During the experiments, the immediate effect of the intervention was assessed; all participants exhibited improvements in gait disturbance while wearing the HAL unit, and this improvement effect persisted without the HAL unit in two participants. Afterward, based on the assessment, we conducted a continuous intervention for one progressive supranuclear palsy participant. In this intervention, the number of steps in the final experiment was significantly decreased compared with the initial state.

Conclusion: These results suggest that the proposed method is an option for treating parkinsonian patients to generate somatosensory and motor cues utilizing iBF loop.

Biography

Akira UEHARA, Ph.D., Assistant professor in the Institute of Systems and Information Engineering at the University of Tsukuba, center for cybernics research, and R&D Center for Frontiers of MIRAI in Policy and Technology, Japan. Received his Ph.D. in Engineering from the University of Tsukuba in 2020. He was an interaction designer at Sony Group Corporation from 2020 to 2022 and an adjunct researcher at Sony Computer Science Laboratories, inc from 2021 to 2022. His research focuses on Cybernics that enhance, strengthen, and support physical and cognitive functions of human beings, based on the fusion of human, AI-robot, and information systems.

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INFLAMMATION MARKERS IN PARKINSON'S DISEASE

Madjidova YN, Mansurova NA, Maksudova KhN, Azimova NM, Kim OV, Khamidova NA and Yakubova ZA

Tashkent Pediatric Medical Institute, Uzbekistan

Abstract

IL-6 plays a critical role in oligodendrocyte differentiation, peripheral nerve regeneration, and acts as a neurotrophic factor. At low concentrations, S100β exhibits neuroprotective properties by blocking NMDA receptors and acting as a growth and differentiation factor for neurons and glia. And at a high concentration, it triggers the synthesis of pro-inflammatory cytokines and leads to apoptosis of neurons.

The aim of the study was to study the concentration of proinflammatory cytokines interleukin 6 and neurospecific neuroprotein s100 in the blood serum of patients with Parkinson's disease.

Materials and Methods: The study included 56 patients with PD, mean age 69.7 ± 3.16 without dementia. The control group included 19 healthy individuals comparable in sex and age with the main group. In patients and the control group, the concentration of pro-inflammatory cytokines IL-6 and neuropeptide s100 were determined by ELISA

Results: The average duration of disease was 4 (3-8 years). The duration of the disease significantly differed in patients with different severity of the disease. In 60% of patients, an increase in IL-6 was observed, and in 10% an increase in the s100 index, which indicates a long-term inflammatory reaction in the development of the immune response. The mean concentration of IL 6 was 10.2 ± 4.09 pg/ml and s100 was 0.087 ± 0.053 ng/ml. The median concentration of IL-6 in patients of the main group was 5.9 ± 1.39, which was significantly lower $p<0.05$, and the concentration of s100 did not differ $p>0.05$.

Conclusion: Patients with PD have significantly higher levels of IL-6 in the blood serum compared to the control group, which may indirectly indicate the involvement of inflammation in the mechanisms of the development of the disease.

Biography

Madjidova.Y.N -Doctor of Medical Sciences, Professor Yakutkhon Nabievna Majidova, Chief Neurologist of the Republic, Head of the Department of Neurology, Child Neurology and Medical Genetics of Tashkent pediatric medical Institute, Corresponding Member of the Euro-Asian Academy of Medical Sciences, Chairman of the Antiepileptic League of Uzbekistan, First Deputy Chairman of the Association of Neurologists of Uzbekistan.

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IMAGING FINDINGS OF THE MRI BRAIN IN CHILDREN PRESENTING WITH SEIZURES: A PROSPECTIVE CROSS-SECTIONAL STUDY

Mahnoor Hafeez, Marya Hameed and Ashraf Amir Ali

Dow University of Health Sciences, Pakistan

Abstract

Background: Seizures are a frequently encountered phenomena in a pediatric setting. Magnetic resonance imaging (MRI) is considered a reliable source of investigation. Our study determined the imaging findings and cause of seizures in children referred for MRI brain examination.

Study Design: A Prospective Cross-sectional study.

Place And Duration Of Study: Our prospective cross-sectional study was conducted in a tertiary care hospital, in Karachi Pakistan after the approval of the Ethical Review Board from 14th Oct 2021 to 15th Oct 2022.

Methods: After IRB approval, children from neonate to 15 years were included to present the history of fits, comprised the study population. The brain MRI was performed on 1.5 tesla scanner with a standard seizure protocol and interpreted by Experienced Radiologists. Findings were recorded on an Excel Sheet and data were analyzed on SPSS.

Result: Our study included 441 patients: 277 males (62.8%) and 164 females (37.2 %), mean age: 3.60 ± 3.57 yrs. The study population comprised normal cases n = 123 (27.9%), Meningitis/ meningo-encephalitis/ infections n = 110 (24.9%), hypoxic ischemic encephalopathy (HIE), n = 80 (18.1%), toxic / metabolic/ neurodegenerative / hypo-myelination = 35 (7.9 %), Congenital n = 33 (7.5 %), Cerebral/ cerebellar atrophy/ pseudo-atrophy n = 31 (7.0 %), Acquired demyelination n = 9 (2.0%), Tumor n = 7 (1.6 %), Miscellaneous n = 7 (1.6 %) Subdural hematoma/ hygroma n = 4 (0.9 %), Mesial temporal sclerosis n = 2 (0.5 %).

Conclusion: Apart from unremarkable MRI scans in 27.9% of patients, hypoxic ischemic encephalopathy and infections are the leading causes for seizures in pediatric population.

Biography

Mahnoor Hafeez is a Dow Graduate, a Fellow of College of Physicians and Surgeons, Pakistan and a Diplomate in European Radiology (EDiR). She is working as a Consultant Radiologist at Dow University of Health Sciences, Pakistan. She has expertise in Diagnostic Radiology and has passion for Research. She has years of experience in Consultancy, Research, Evaluation and Teaching at Tertiary Care Hospital. She is a part of team comprising of more than 20 staff Radiologists reporting CT and MRI cases simultaneously. She has published more than 25 research articles in Radiology. Her interests include Radiomics, Emergency Radiology, Musculoskeletal imaging, Virtual Dissection, PET/ CT Imaging, Research and Artificial Intelligence.

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NEW DAILY PERSISTENT HEADACHE: A SYSTEMATIC REVIEW ON AN ENIGMATIC DISORDER

Nooshin Yamani[1,2] and Jes Olesen[1]

[1]*University of Copenhagen, Denmark*
[2]*Tehran University of Medical Sciences, Iran*

Abstract

Background: New daily persistent headache (NDPH) recognized as one type of primary headache disorders. NDPH though rare, considered important because it is persistent and often refractory to treatments and associated with psychiatric comorbidity and disability.

Objectives: To describe the existing studies of epidemiology, clinical features, trigger factors, pathophysiology and therapeutic options of NDPH to better understand this enigmatic disorder.

Methods: PubMed and EMBASE search was performed using the search terms "new daily persistent headache" and "NDPH". We also searched other useful sources in the reference list of selected articles.

Results: NDPH presents with sudden onset headache which continues without remitting within 24 hours. Headache characteristics might resemble tension-type headache or migraine or both. Prevalence of NDPH estimated to be 0.03% to 0.1% in the general population and more often affects children and adolescents than adults. The exact pathogenic mechanism of NDPH is anonymous, but proinflammatory cytokines and cervicogenic problems might play role in its development.

There is no well-defined strategy for treatment of NDPH based on clinical evidence and it seems best to treat NDPH based upon the prominent headache phenotype. A few treatment regimens have been used in the literature with mixed results. However, even aggressive treatment is ineffective or only partially effective.

Conclusion: All aspects of NDPH discussed in this review need further study. NDPH remains poorly understood but very burdensome for the individual without any efficient therapy.

Biography

Nooshin Yamani is a Neurologist and she had her Fellowship and Mastership in Headache Disorders from university of Copenhagen MMC polyclinic

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EXPLORING A NOVEL TREATMENT SITE FOR POST-TRAUMATIC HEADACHE (PTH) USING TRANSCRANIAL MAGNETIC STIMULATION

Mohammed Ahmed[1], Ameer Chaudry[1], Alejandro Dauguet[1], Ahmed Marabeh[1] and Christine N Smith[2,3,1]

[1]Kaizen Brain Center, USA
[2]Veterans Affairs San Diego Healthcare System, USA
[3]University of California, USA

Abstract

Background: PTH is a significant sequelae after concussion and can cause significant functional issues. TMS has shown promise, but the treatment target for PTH was not well understood. In a previous study, we were able to identify a new novel target for treating PTH using TMS. We used this target in our clinical practice with PTH to further assess the efficacy.

Objective: To assess the efficacy of the new PTH target in patients with TBI undergoing TMS

Methods: We examined 25 individuals with a history of mild TBI who had a diagnosis of persistent PTH comorbid with major depressive disorder who received transmagnetic stimulation (TMS) in the left dorsolateral prefrontal cortex (DLPFC) to treat depression. In Group 1 (n=21), TMS targeted the standard site for treating MDD in the DLPFC. In Group 2 (n=4), TMS targeted a novel site associated with improved functional impact of headache. The Headache Impact Test (HIT-6) was used to assess the impact of PTH on patients' daily lives before and after TMS treatment.

Results: We found that, in Group 1, patients did not exhibit a significant reduction in the functional impact of headache (0.779% reduction, p = 0.404, -2 points on HIT-6). However, we did identify a specific region in the left dorsolateral prefrontal cortex associated with an improved functional impact. Conversely, patients in Group 2 did exhibit a significant reduction in the functional impact of headache (14.4% reduction, p = 0.037, -10 points on HIT-6).

Conclusion: Our new PTH coordinate is a good target using TMS in patients with TBI.

Biography

Mohammed Ahmed, MD, is a Neuropsychiatrist, board-certified by the American Board of Psychiatry and Neurology and is the medical director of Kaizen Brain Center. He received his medical degree from India and completed his residency focusing on Neuropsychiatry at Wake Forest University Baptist Health, North Carolina. He has a double fellowship in Behavioral Neurology/Memory disorder/Dementia at the Shiley-Marcos Alzheimer's Disease Research Center, University of California and VA, San Diego, California, and in Neurorehabilitation at Wake Forest University, North Carolina. He trained at the Berenson-Allen Center for Noninvasive Brain Stimulation, Harvard Medical School for TMS. He has an executive certificate in Strategy and Innovation focused on Digital Health from the Massachusetts Institute of Technology (MIT).

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POST-TRAUMATIC HEADACHE (PTH): POSSIBLE NEW THERAPEUTIC TARGET FOR TRANSCRANIAL MAGNETIC STIMULATION?

Mohammed Ahmed[1], Anika Balse[1], Christine N. Smith[2,3,1], William Drew[4], Shahrokh Golshan[2,3], Hossein Ansari[1,3], Alejandro Dauguet[1] and Ameer Chaudry[1]

[1]Kaizen Brain Center, USA
[2]Veterans Affairs San Diego Healthcare System, USA
[3]University of California, USA
[4]Harvard University, USA

Abstract

Background: Persistent headache is the most common and debilitating complaint after traumatic brain injury (TBI), which also independently impacts sleep, attention, memory, and mood; resulting in reduced quality of life. Yet, it is not clear how to best treat post-traumatic headache (PTH) with TMS.

Objective: In patients treated with TMS for depression, we explored whether TMS effectively treats PTH.

Methods: We examined 21 individuals with history of TBI who had a diagnosis of persistent PTH comorbid with major depressive disorder who received transmagnetic stimulation (TMS) to treat depression. We had 3 goals: 1) determine if treatment with rTMS was associated with improvement in measures of headache and mood in patients with comorbid headache and mood disorders; 2) identify demographic, TBI, or TMS variables related to whether patients exhibited significant clinical improvement in headache severity/frequency after TMS treatment, 3) identify brain regions that could be used for TMS targeting in the treatment of headache.

Results: We found that patients exhibited significant reduction in measures of mood, but only numerical improvement in headache. Participants who Responded (n=12) versus did not Respond (n=9) to TMS by exhibiting subjective clinical improvement in headache severity/frequency did not differ on any demographic, TBI, or TMS variables, but only the Responder group exhibited concomitant significant improvements in mood (anxiety and depression scores). Finally, we identified regions in the left prefrontal and bilateral medial parietal cortex where increased connectivity to TMS stimulation sites was related to improved functional impact of headaches.

Conclusion: These findings suggest that TMS treatment targeting the left prefrontal cortex may lead to improved treatment of PTH with concomitant improvement in mood.

Biography

Mohammed Ahmed, MD, is a Neuropsychiatrist, board-certified by the American Board of Psychiatry and Neurology and is the medical director of Kaizen Brain Center. He received his medical degree from India and completed his residency focusing on Neuropsychiatry at Wake Forest University Baptist Health, North Carolina. He has a double fellowship in Behavioral Neurology/Memory disorder/Dementia at the Shiley-Marcos Alzheimer's Disease Research Center, University of California and VA, San Diego, California, and in Neurorehabilitation at Wake Forest University, North Carolina. He trained at the Berenson-Allen Center for Noninvasive Brain Stimulation, Harvard Medical School for TMS. He has an executive certificate in Strategy and Innovation focused on Digital Health from the Massachusetts Institute of Technology (MIT).

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A RARE CASE OF INTRAMEDULLARY THORACIC SPINAL CORD ABSCESS MIMICKING TUMOR: DIAGNOSIS AND MANAGEMENT CHALLENGES

Naeem Ul Haq

Mardan Medical Complex (MMC), Pakistan

Abstract

Background: The common intramedullary thoracic spinal cord abscess in this 48-year-old lady is described in this study; it was first mistaken as a tumour. With just approximately 100 instances documented, these abscesses are difficult to diagnose since they often exhibit neurological impairments and back discomfort but lack common imaging characteristics like MRI ring enhancement.

Objectives: The study seeks to explain intramedullary spinal cord abscesses' diagnostic challenges, emphasise the need of differential diagnosis in spinal illnesses, and emphasise the need for urgent surgery.

Study Design: A Case Report.

Methods: In this case report, a 48-year-old female patient who presented with lower limb weakness and persistent interscapular discomfort was evaluated using a thorough clinical examination and diagnostic imaging, namely MRI. Based on imaging and symptoms, a surgical investigation was conducted, which resulted in the unexpected finding and treatment of an intramedullary spinal cord abscess.

Results: An intramedullary spinal cord abscess, previously misdiagnosed as a tumor, was discovered during surgical investigation in a 48-year-old female patient. Intravenous antibiotics were administered as part of the surgical therapy after the purulent contents were removed. The patient's remarkable recovery, despite a little degree of lingering lower limb paralysis, underscores the influence of such infections on neural function.

Conclusion: The difficulties in diagnosing spinal cord illnesses are shown by this example, which highlights the need of taking uncommon diseases like intramedullary abscesses into account. It emphasises the need of surgical treatment flexibility and the importance of prompt, suitable intervention to reduce the risk of long-term neurological damage in patients who arrive with neurological impairments and back pain.

Biography

Naeem ul Haq is a well-known Associate Professor of Neurosurgery at Mardan Medical Complex (MMC). He is a cornerstone in his area, especially when it comes to intricate spinal and cranial treatments, having served with distinction for more than 20 years in neurosurgery. His outstanding academic career prompted him to focus on neurosurgery, where he has subsequently achieved notable progress. Dr. ul Haq has played a significant role in the expansion and advancement of the neurosurgery division at MMC. His areas of interest in research include brain tumours, spinal cord injuries, and the development of surgical methods. He has made significant contributions to many peer-reviewed medical publications. Well-known for his unwavering dedication to education, Dr. Ul Haq has coached many aspiring neurosurgeons, giving information and abilities crucial for the dynamic field of neurosurgery. His commitment to the ongoing exchange and growth of neurosurgical knowledge is shown by his speaking engagements at national and international conferences. Dr. Ul Haq is well-respected by both patients and colleagues for his significant and inspirational contributions to neurosurgery and medical education.

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MINIMALLY INVASIVE POSTEROLATERAL APPROACH FOR SURGICAL RESECTION OF DUMBBELL TUMORS OF THE LUMBAR SPINE

Tuigynov Zhandos

National Center for Neurosurgery, Kazakhstan

Abstract

Minimally invasive spine surgery (MISS) has many advantages over traditional open surgical procedures that can be conducted for the therapy of different diseases of the spine. MISS provide many prospective advantages such as, for example, small incisions, less damage to soft tissues, early activation of patients, and a shorter postoperative hospital stay. The aim of the study was to evaluate institutional experience with Dumbbell tumors and metastatic lesions of the lumbar spine and compare it with traditional open surgical resection of this type of tumors. Fourteen patients underwent the surgery with minimally invasive posterolateral approach in experimental group, and 10 patients of the control group were operated using the traditional open surgery procedure at the Department of spinal neurosurgery and pathology of peripheral nervous system of JSC "National Center for Neurosurgery." The intraoperative neuro monitoring system (ISIS IOM System Compact, Inomed, Germany) was used in both groups. Sensory and motor evoked potentials were intraoperatively recorded. The present study was approved by the local Ethics Committee of the National Center for Neurosurgery. Patients signed informed consent before the surgical procedure. The experimental group included 14 patients, that underwent the surgery during the period from January 2020 till March 2021. And the control group included 10 patients that was operated from January 2018 to December 2019. The results of the treatment in both groups were assessed according to the generally accepted visual analog scale (VAS) and the Oswestry scales before, on the third day, and 3 months after the surgery. In experimental group, average reduction of the pain syndrome of 3.36 points (from 3 to 0 points) was observed in patients postoperatively according to the VAS 3 days, and of 4.0 points (from 2 to 0 points) 3 months after surgical procedures. Improvement by 23.86% (36–16%) was also observed using the Oswestry Disease Index (ODI) 3 days after the surgery, and then reduced to 21.00% (16–34%) in average in 3 months. All patients were revived 3 h after transfer to the specialist department. The average stay in the hospital was 6.5 (9–4) days in both groups. In control group, average reduction of the pain syndrome of 2.60 points (from 4 to 1 points) was observed postoperatively according to the VAS 3 days after the operation, and of 3.9 points (from 2 to 0 points) 3 months after the surgery. The ODI of patients was also improved by an average of 35.40% (50–20%) 3 days after the surgical procedure, and reduced to 24.20% (16–32%) in average 3 months after the surgery.

Biography

Tuigynov Zhandos, MD is a graduate of Kazakh National Medical University named after S.D. Asfendiyarov in Almaty, Kazakhstan in 2013 year, faculty of General Medicine. After that passed an internship at the same University from 2013 to 2015 years with a degree in general surgery. He graduated from the residency at JSC "National Center for Neurosurgery", Astana, Kazakhstan from 2015 to 2019 years, specializing in "Neurosurgery, including pediatric neurosurgery". During his residency clinical interests have been in spinal neurosurgery and vascular neurosurgery, he was able to provide superior care and consultation that resulted in an overall improvement of the department's patient satisfaction quotient. Dr. Zhandos has been practicing in the of the Department of Spinal Neurosurgery and Peripheral Nervous System at JSC "National Center for Neurosurgery", Astana, Kazakhstan since 2019, is the leading organization providing neurosurgical care in the Republic of Kazakhstan and Central Asia. Currently his practice focuses spinal neurosurgery, intra - extradural tumors of the spinal cord, spinal tumors, MISS (minimal invasive surgery) treatment of degenerative disorders of the spine, trauma to peripheral nerves and nerve plexuses. His research focuses on thoracic vertebra body tumors resection and replacement, dumbbell intradural tumors of nerve roots. He currently has 2 publications in the Journal of Frontiers in Surgery and has co-authorships spanning several other publications, including Journal of Frontiers in Oncology.

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CORRECTION OF AUTISM SPECTRUM DISORDERS IN CHILDREN BY MICROCURRENT REFLEXOLOGY METHOD

Khusenova NT, Majidova YN and Ergasheva NN

Tashkent Pediatric Medical Institute, Uzbekistan

Abstract

Relevance: The problem of autism in the world is beginning to become acute in many ways and, above all, the number of cases is increasing compared to previous years. According to WHO, the prevalence of autism is increasing by 14% every year, and in China up to 20% per year. It is believed that the upward trend will continue in the future.

Purpose of the study: To evaluate the dynamics of the effectiveness of the appointment of microcurrent reflexology method in the complex correction of children with ASD.

Material and method of research: The work was carried out at the Department of Neurology of the Tashkent Medical Institute and on the basis of the "Reocenter" in the period from 2018 to 2021. The diagnosis of ASD in the study groups was determined using the DSM-V criteria for the diagnosis of autistic disorder. We examined 120 children with ASD aged 2 to 6 years. We found that the peak of ASD detection falls on the age of 4-6 years. According to the distribution by sex, an almost 4-fold predominance of boys over girls in all age groups was established. To analyze the results of the study on the effectiveness of the microcurrent reflexology method, we divided children with autism into two groups. The main group consisted of 80 children with autism who received microcurrent reflexology sessions in the complex pharmacological treatment and ABA therapy. The microcurrent reflexology method was performed using the MERT device approved for use in the countries of the European Union (registration number MED 31494_1). The full course of treatment is 3 weeks - 15 treatment procedures. The treatment is carried out daily, the duration of the treatment procedure ranges from 30 minutes to 40 minutes. The comparison group consisted of 40 children with autism who received standard pharmacotherapy and ABA therapy.

Results and their discussion: As a result of the studies, it was found that in children with ASD, when microcurrent reflexology method was prescribed, there was a restoration of visual and auditory memory in the dynamics of treatment, however, the figures were not reliable, but had a more pronounced tendency in relation to the comparison group. A similar picture is also observed in the analysis of attention indicators in the dynamics of treatment, in the main group, children made mistakes 1.5 times less often, while in the comparison group - 1.1 times. According to the data obtained, the reliability of the data was not significant, however, it had a pronounced trend in the main group of children with ASD.

When microcurrent reflexology was prescribed in complex treatment, children of the main group showed an increase in productive attention by 2 times, while in the comparison group it was 1.5 times ($P<0.05$).

In the emotional sphere, there was also a significant leveling of indicators in children with ASD in the main group in relation to the data before and after treatment, as well as to the indicators of children from the main group ($P<0.05$)

By the end of treatment, positive dynamics were noted: cognitive interest in the environment increased, fatigue, excitability, and manifestations of aggressiveness decreased.

The amount of operative memory in the visual modality increased by 1.93 times; in auditory-speech modality - 1.76 times. Voluntary attention became more stable, the number of errors decreased by 1.28 times.

Conclusion: Thus, in children with ASD in the complex of therapy for which microcurrent reflexology was included, it was possible to achieve significant improvements in social adaptation and an increase in sociability in patients with early childhood autism were detected after inclusion in the microcurrent reflexology treatment complex. In children with ASD, who received microcurrent reflexology in the complex of treatment, speech skills, attention productivity, visual modality increased, anxiety, aggression and depressive reactions decreased, as well as the acquisition of communication skills by an average of 45.3%.

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ROLE OF P11 THROUGH SEROTONERGIC & GLUTAMATERGIC PATHWAYS IN LID

Alireza Noori, Kousha Farhadi, Yasmin Mohatasham Kia, Nastaran Hosseini and Soraya Mehrabi

Iran University of Medical Sciences, Iran

Abstract

Parkinson's disease is a progressive neurodegenerative disorder caused by the degeneration of dopaminergic neurons. This leads to the pathogenesis of multiple basal ganglia-thalamomotor loops and diverse neurotransmission alterations. Dopamine replacement therapy, and on top of that, levodopa and l-3,4-dihydroxyphenylalanine (L-DOPA), is the gold standard treatment, while it develops numerous complications. Levodopa-induced dyskinesia (LID) is well-known as the most prominent side effect. Several studies have been devoted to tackling this problem. Studies showed that metabotropic glutamate receptor 5 (mGluR5) antagonists and 5-hydroxytryptamine receptor 1B (5HT1B) agonists significantly reduced LID when considering the glutamatergic overactivity and compensatory mechanisms of serotonergic neurons after L-DOPA therapy. Moreover, it is documented that these receptors act through an adaptor protein called P11 (S100A10). This protein has been thought to play a crucial role in LID due to its interactions with numerous ion channels and receptors. Lately, experiments have shown successful evidence of the effects of P11 blockade on alleviating LID greater than 5HT1B and mGluR5 manipulations. In contrast, there is a trace of ambiguity in the exact mechanism of action. P11 has shown the potential to be a promising target to diminish LID and prolong L-DOPA therapy in parkinsonian patients owing to further studies and experiments.

Biography

Alireza Noori is a Passionate 6th year medical student and experienced neuroscience enthusiast, seeking to work on novel diagnostic and therapeutic approaches to Parkinson's disease. Having experience of working with student neuroscience societies, National Brain Mapping laboratory and Cognitive Sciences & Technologies Council. After 2 years of studying on P11(S100A10) as a novel biomarker in Parkinson's Disease and Levodopa-induced Dyskinesia (LID) my colleagues and I are looking forward to continue working on this target to achieve more efficient approach to alleviate LID. He take it as an article of faith that He must exert myself in order to give in the same measure as He have received and He do believe that He can make a difference.

Day-2
Keynote Presentations

TRIGEMINAL NEURALGIA, DIFFERENTIAL DIAGNOSIS AND UPDATE ON TREATMENT

Hossein Ansari

Kaizen Brain Center, University of California, San Diego, USA

Abstract

Trigeminal Neuralgia (TN) is a painful neurological condition that primarily affects the trigeminal nerve, causing intense facial pain. While it is the most common craniofacial neuralgia and frequently diagnosed in patients with facial pain, it is not the most prevalent cause of facial pain. We will explore the wide range of differential diagnosis of facial pain, from dental disorder to autoimmune disease and primary headache syndromes to make sure clinicians can differentiate that condition from actual trigeminal neuralgia. It is important to consider all alternative diagnoses and exclude them before diagnosing a patient with TN.

As far as treatment, for the past 60 years, Carbamazepine and oxcarbazepine have been the primary treatments for Trigeminal neuralgia, but no new treatment options have emerged during this period. As a result, there is a pressing need for the development of a novel pharmacologic therapy to address this distressing and debilitating condition. Basimglurant is a potent inhibitor of metabotropic glutamate receptor 5 (mGluR5) is currently under clinical trial in US and Europe as potential novel treatment for this condition. We will discuss this ongoing clinical trial and some other potential trials in the field of TN.

Biography

Ansari is a board-certified neurologist by "American Board of Psychiatry and Neurology (ABPN). He also completed a fellowship in "Headache and Facial pain" in Mayo Clinic, Rochester, MN, and received board certification on Headache medicine by "United Council of Neurological Subspecialty" (UCNS). Ansari is actively involved in multiple domestic and international professional societies specifically International Headache Society (IHS) and presented in numerous national and international conferences. Ansari is a consultant and advisor for multiple pharmaceutical companies, which are working to develop a treatment for facial pain or headache. He is running multiple clinical trials in the area of Trigeminal neuralgia and migraine. His specialist interests are the interventional and procedural treatment of headache including migraine, Facial pain with a focus on autoimmune trigeminal neuropathy, trigeminal neuralgia, neuro-rheumatology, and neuro-pharmacology.

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DEVELOPMENTAL AND EPILEPTIC ENCEPHALOPATHIES: ANALYSIS OF A COHORT OF CHILDREN WITH GENOTYPE/PHENOTYPE CORRELATION

Gabriella Di Rosa[1] & Greta Amore[1], Ambra Butera[1], Laura Turriziani[1], Vincenzo Salpietro Damiano[2], Stephanie Efthymiou[2], Henry Houlden[2], Giulia Spoto[1] and Antonio G. Nicotera[1]

[1]University of Messina, Italy
[2]University College London, UK

Abstract

Introduction: Developmental encephalopathies (DE), epileptic encephalopathies (EE) and Developmental and epileptic encephalopathies (DEE) are distinct though partially overlapping diagnostic categories, nowadays considered to be mostly on a genetic basis and accountable among the wider and heterogeneous spectrum of Neurodevelopmental Disorders (NDDs). Since the breakthrough of next-generation sequencing techniques, such as whole exome sequencing (WES), mounting evidence has emerged on the multifactorial, and especially genetic, etiologies underpinning these conditions.

Objectives: Aim of our study was to test the utility of Whole Exome Sequencing on a cohort of patients with variable likely genetic NDDs.

Materials and Methods: 55 patients were recruited, phenotypically distinguished in three groups: epilepsy/EE (5/55), DE 21/55 and DEE (29/55). The variants found were classified following the updated guidelines from American College of Medical Genetics (ACMG). Candidate variants were validated through Sanger sequencing and filtered according to family segregation, population genetics, and phenotype prediction programs.

Results: For 23/55 subjects (42%) we found significant variants (either pathogenic/likely pathogenic or VUS) in known disease-genes. We considered "solved" all those cases with a pathogenic variant, and "likely solved (further evidence required)" all those in which a VUS was identified. Among the solved cases, 6/29 probands phenotypically included in the DEE group received an actual diagnosis of genetic DEE, named after the gene involved (SCN8A, TBC1D24, KCNQ2, GABRB2, SLC25A22 and KCNA2), while only 3/21 probands belonging to the DE group received an actual diagnosis of genetic-DE, as well as 6/29 and 2/5 originally included in the DEE and EE group respectively, with several genes involved (among which CASK, ASXL1, CACNA1H, NPRL3). New DEE candidate genes (EXH1, ATP6V1B2 and HTR3A) were also found.

Conclusion: Our study confirms the high diagnostic potential of WES in NDDs, with a good detection rate compared with the results obtained in similar studies. WES is an effective diagnostic tool which facilitate the identification of disease-causing variants in known genes as well as novel disease genes. The results support the importance of accurate phenotyping, corroborates the need for an expansion and re-definition of NDDs, and highlight how genetic diagnosis can significantly improve clinical management and etiologically targeted treatments.

Biography

Gabriella Di Rosa was born in Messina, Italy, on November 26th 1975. She was admitted to Medical school, Faculty of Medicine and Surgery of the University of Messina, and graduated on July 25, 2000 with highest mark cum Laude. On November 14, 2006 she completed the residency school in Child Neuropsychiatry, highest mark cum laude, University of Messina. From January 2007 to December 2010 prof. Di Rosa gained a PhD in Clinical Neurosciences, University of Messina. Most recent positions: Since May 31st, 2021 she is the Chief of Residency School of Child Neuropsychiatry of the University of Messina. Since October, 2021 she is the Chief of post-graduation school on Neuropsychomotor Therapy of Developmental Age of the University of Messina. Since February 16th, 2022 is the Head of Child Neuropsychiatry Unit of the University Hospital of Messina. She gained the Italian national Scientific Board, full professor, MACROAREA 06/G1 "General and Specialistic Pediatrics and Child Neuropsychiatry" (ART. 16 L.240/2010) February 6th, 2023.

Day-2
Oral Presentations

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POTENTIAL REVERSAL OF ALZHEIMER'S DISEASE PATHOLOGY BY ANTIBODY TB006 TARGETING GALECTIN-3, A MAJOR CAUSE OF OLIGOMERIZATION OF AMYLOID PROTEINS

Suhail Rasool

TrueBinding, Inc, USA

Abstract

Background: Alzheimer's disease (AD) is the leading cause of dementia among older adults and the 6th most common cause of death in American adults. Accumulation of different conformational aggregates of amyloid-β (Aβ) and phospho-Tau occurs in brains of AD patients, what leads to aggregation of these amyloid proteins remains unknown. Galectin-3 (Gal-3) was reported to be involved in Aβ oligomerization. Here, we show that Gal-3 promotes oligomerization of Aβ and other pathogenic factors, and TB006, a monoclonal antibody targeting Gal-3, acts as a possible treatment for AD by degrading neurotoxic oligomers and reducing inflammation. Pre-clinical studies show that TB006 is an efficacious therapeutic entity through preventing formation of toxic oligomers and blocking or even reversing AD progression

Objective: To examine the role of Gal-3 in Aβ aggregation (conformational oligomer formation) and to investigate the therapeutic efficacy of our novel Gal-3 antibody for treatment of AD.

Methods: The effects of anti-Gal-3 antibody (mTB001) were tested in three AD mouse models (two transgenic mouse models (APPSwe, 5xFAD) and an Aβ42-injected mouse model. After a two-week treatment, a spatial memory function test was conducted, followed by biochemical and immunohistochemical characterizations.

Results: Galectin-3 intrinsically and selectively promoted, while mTB001 and TB006 degraded, oligomerization of pathological protein forms like Aβ42/40 and phsopho Tau. Gal-3 enhanced, while mTB001 blocked, Aβ42-induced lysosomal dysfunction and pro-inflammatory activation. Additionally, Aβ42 and Gal-3 synergistically induced, while mTB001 reversed, neuronal death. In vivo, in three mouse models of AD, cognitive deficits were strongly attenuated after just two weeks of mTB001 treatment. Mechanistically, Gal-3 antibody blocked the initiating events in AD (Aβ aggregates), reduced inflammation and rescued neuronal damage. Furthermore, microhemorrhages, a potential safety liability seen in clinical stage drugs, were reduced.

Conclusion: Overall, TB006, our clinical lead antibody against Gal-3 which has shown a superior safety profile, utilizes a novel target to provide beneficial therapeutic effects for AD patients under a new modality for AD treatment.

Biography

Suhail Rasool is the Director of Neurodegenerative Diseases Research division at Truebinding Inc. His work involves developing diagnostic biomarkers and therapeutic modalities for AD and other neurodegenerative diseases. His major contributions from the past five years include: in vivo and ex vivo characterization of molecular probes and aggregates of various amyloid proteins for the diagnosis of AD, Parkinson's disease, prion disease and cerebral amyloid angiopathy; in vivo and ex vivo characterization of molecular probes and aggregates of various amyloid proteins for the diagnosis of Traumatic brain injury (TBI) using the retina as a window; preclinical work for a novel Alzheimer's disease diagnostic candidate; and investigation of fluorescent probes capable of labeling and enhancing visualization of amyloids in the retina. In late 2021, U.S. Food and Drug Administration (FDA) has granted clearance of the Investigational New Drug (IND) application to proceed with the clinical development of its lead product candidate, TB006, for the treatment of Alzheimer's Disease.

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SYNERGISTIC EFFECT OF BRAIN STIMULATION WITH CONSTRAINT INDUCED MOVEMENT THERAPY FOR FUNCTIONAL NEUROPLASTICITY IN CHILDREN WITH HEMIPARETIC CEREBRAL PALSY: A RANDOMIZED CONTROL TRIAL

Mufti Aliya, Jain Suman, Gulati Sheffali, Kochhar Kanwal P, Alam Iqbal, Wadhwa Sanjay, Sikka Kapil and Saxena Rohit

All India Institute of Medical Sciences, India

Abstract

Background: There is an essential requirement to frame optimal rehabilitation programs for children with cerebral palsy (CP). Infantile CP is caused due to damage to the immature developing brain usually before birth, leading to altered topography and biochemical milieu. CP is a life-limiting disorder, that causes changes in sensory, motor, cognitive and behavioural functioning. Understanding its pathophysiology is complex and current therapeutic modalities; oral medication, surgical treatment, physical therapy and rehabilitation provide minimal relief. As the brain is plastic, it has an inherent capacity to adapt to altered activity, Thus neuromodulating strategies like rTMS, can be used to investigate the coherence of the fast-conducting corticomotor pathways and induce recovery in CP patients. The aim of the present study is to understand the effect of low frequency repetitive transcranial magnetic stimulation on cortical excitability and plasticity in infantile hemiplegic cerebral palsy patients.

Method: Infantile hemiplegic cerebral Palsy patients were recruited from Pediatric Neurology, OPD AIIMS Delhi and consent for the study was taken. Efficacy of 6-Hz primed, low-frequency, repetitive transcranial magnetic stimulation (rTMS) along with modified constraint-induced movement therapy (mCIMT) in improving upper limb function in children with hemiplegic cerebral palsy was assessed. It was administered at primary motor cortex for 4 weeks in 10 sessions, following which QUEST scoring was done to assess sensory and motor function and Modified spasticity score (MAS) assessed extent of spasticity. Cortical excitability and plasticity was recorded using single and paired pulse paradigms of TMS.

Result: All 40 children completed the trial. After 10 sessions of intervention there was a significant increase in QUEST score,CP-Quality of life Child score, grip strength and decrease in MAS Score in the active rTMS group as compared to Sham. Single and paired pulse paradigm revealed significant decrease in resting and active motor threshold as well as reduction in short and long intracortical inhibition in intervention group of patients. The mean change in weight bearing and protective extension was also significantly higher in the intervention arm as compared to the sham group and no SAE was reported during the trial.

Conclusion: Our findings suggest therapeutic potential of rTMS in alleviating symptoms of patients with neurodevelopmental disorders like Cerebral Palsy and 6-Hz primed rTMS combined with mCIMT is safe, feasible, and modulates neural plasticity leading to improvement in the upper limb function hemiparetic CP children.

Biography

Aliya Mufti is a Senior Research Fellow (SRF) in the Department of Physiology of All India Institute of Medical Sciences new delhi. She has done Bachelor's in zoology (Hons) from Aligarh Muslim University and Master's in Clinical research from Jamia Hamdard University during her course she has got trained in Ranbaxy Research Laboratories and Max Health Care for BA/BE studies and Clinical Trials etc. She has a passion and more than 8 year's of experience in the field of Neurosciences. She is Expert in Translational and Clinical Research including Clinical and Non-clinical studies. She is involved in the Pediatric Research under the supervision of Prof.Suman Jain Department of Physiology and Prof. Sheffali Gulati Department of Pediatrics, All India Institute of Medical Sciences (AIIMS) New Delhi since 2019.

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TO STUDY THE EFFECTIVENESS OF A NEW CONSENSUS ON IMPROVING THE BIOMECHANICS OF THE ANKLE JOINT IN PATIENTS AFTER STROKE

Y Madjidova, M Bakhramov, B Bakhriev, Z Abdullaev and S Jabborova

Tashkent Pediatric Medical Institute, Uzbekistan

Abstract

Introduction: Violation of movements in the hip and knee joints is the main factor of gait disorders, as well as violation of movements in the ankle joint also leads to the formation of pathological synergy of leg muscles. Currently, a consensus has been developed to restore hip and knee joint mobility. But, according to the literature, there is less information about the complex of special exercises for the ankle joint.

Methods and materials: Our study involved 180 patients. For gait analysis we use clinical tests and video analysis. All patients took part in a special course of walking exercises developed by us for 3 months.

Results: Against the background of training, an increase in the overall score on the Fugl-Meyer scale was found from 67.2 to 72.7 points ($p < 0.05$) and separately for the leg from 22.1 to 23.6 points ($p < 0.05$), as well as a decrease in the tone of the extensor muscles. In the ankle joint, according to the modified Ashworth scale, there was a decrease in muscle tone from 3.0 to 2.5 points ($p < 0.05$). We saw that the indicators of the Hauser walking index ranged from 6.3 to 6.7 ($p < 0.05$) points. Our experience has shown-the biomechanics of the ankle joint has improved by 25% and walking by 10%.

Conclusion: Summing up the above indicators, our consensus for restore movement in the ankle joint has shown its effect.

Disclosure: To develop a new consensus for the recovery of the ankle joint in post- stroke patients.

Biography

Doctor of Medical Sciences, Professor Yakutkhon Nabievna Majidova, Chief Neurologist of the Republic, Head of the Department of Neurology, Child Neurology and Medical Genetics of Tashkent pediatric medical Institute, Corresponding Member of the Euro-Asian Academy of Medical Sciences, Chairman of the Antiepileptic League of Uzbekistan, First Deputy Chairman of the Association of Neurologists of Uzbekistan.

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AUTISM AND ITS TREATMENT WITH MICROCURRENT REFLEXOTHERAPY

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Tashkent Pediatric Medical Institute, Uzbekistan

Abstract

The purpose of research: To study the effectiveness of microcurrent reflexotherapy in children with autism.

Materials and methods of research: The research is based on data from a survey of 120 children with autism. The diagnosis of autism spectrum disorder in the study groups was determined using the DSM-IV criteria for the diagnosis of autistic disorder. The age of the children varied from 2 to 14 years. The main group consisted of 60 children with autism who received microcurrent reflexotherapy sessions in complex pharmacological treatment and ABA therapy. Microcurrent reflexotherapy was carried out using the device "MERT", which is approved for use in the countries of the European Union (registration number MED 31494_1).

The comparison group consisted of 60 children with autism who received standard pharmacotherapy and ABA therapy.

Results of the research: When prescribing microcurrent reflexotherapy in complex treatment, children of the main group showed an increase in productive attention by 2 times, while in the comparison group it was 1.5 times ($P<0.05$).

In 52% of cases, the children of the main group showed positive dynamics of moderate and severe cognitive activity; 40% of children have weakly positive dynamics, and only in 8% of cases there was no dynamics. In 8% of children, positive dynamics of a pronounced degree, these children showed a significant improvement in their emotional state, the appearance of voluntary activity, a decrease in motor stereotypes, and the appearance of a communicative function of speech.

In children who received treatment according to the standard method, positive dynamics of a pronounced degree were noted only in 8%, the dynamics of cognitive activity of a moderate degree in 28% of children, in 36% - of a weak degree, in 28% of cases there was no dynamics, i.e. no dynamics and weak dynamics in 64% of cases; only 36% of children have moderate and pronounced dynamics.

Conclusion: In children with autism spectrum disorder who received microcurrent reflexotherapy in the complex treatment, speech skills, attention productivity, visual modality increased, anxiety, aggression and depressive reactions decreased, as well as the acquisition of communication skills increased by 45.3%

Day-2
Poster Presentations

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UNMASKING AUTOIMMUNE ENCEPHALITIS: HIDDEN THREATS TO BRAIN HEALTH

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Abstract

Objective: Identify the complexity and diversity of autoimmune encephalitis presentations. Emphasize the diagnostic challenges associated with this condition, including the overlap of symptoms with other neurological and psychiatric disorders.

Introduction: Autoimmune encephalitis is a complex relatively new category of immune-mediated disease involving the central nervous system that demonstrates a widely spectrum of clinical presentations. Symptoms could vary from bewildering array of neurological and psychiatric symptoms, ranging from cognitive decline and personality changes to seizures and movement disorders. The enigmatic nature of these symptoms often leads to a diagnostic challenge, with misdiagnoses or delayed diagnoses.

Patient's Presentation: 42 years old female without any significant past medical history, who presented to hospital with altered mental status, agitation and psychosis. She underwent routine work up CBC, CMP, and urine analysis, urine toxicology and Head CT were all negative and ultimately was discharged with instructions to follow up with outpatient Psychiatrist. After a few weeks, she presented to ER due to seizure and weakness. Her family informed that she was seen recently by Psychiatrist due to recurring symptoms of mood change, psychosis that were refractory to psychotropic medication, workup including new head CT and MRI and lumbar puncture were ordered to assess new symptoms. She was admitted, started on intravenous Acyclovir and Ceftriaxone and Vancomycin standard coverage for viral and bacterial meningitis. Antibiotics and Acyclovir were later discontinued when CSF analysis returned negative for bacteria/virus and both serum and CSF positive for anti NMDAR antibodies, MRI was unremarkable for any significant finding. She was treated with IV steroids with a favorable treatment response. Neurologist documented it as autoimmune encephalitis causing a different manifestation. She was discharged home with outpatient follow up.

Discussion: Autoimmune encephalitis is a condition marked by its complexity and clinical heterogeneity. Patients may present with a myriad of neurological and psychiatric symptoms. The symptoms typically develop quickly over weeks to a few months. Establishing the diagnosis is challenging and requires a thorough history and physical exam, as well as laboratory and imaging studies. While there is no single diagnostic feature that can make this diagnosis in isolation, recognizing a certain constellation of findings during the work-up of complex and atypical cases of new-onset altered mental status is crucial to confirm the diagnosis with serologic testing. There may not be any neuroimaging findings despite profound neuropsychiatric dysfunction, but serum antibody testing can still ultimately lead to the diagnosis of autoimmune encephalitis. Given atypical presentation of sudden onset of altered mental status with psychosis this patient was initially misdiagnosed and received inappropriate and delayed treatment due to continue misattribution of her symptoms which had profound impact on her personal life and relationships. Early recognition and intervention are vital to identify and effectively manage the patient and prevent disease to progress, potentially leading to permanent neurological damage. Awareness about the encephalitis for an acutely psychotic patient with underlying medical issue and may aid in communication between psychiatry and neurology team to improve outcome for a complex case.

Biography

Harjeet Kaur is second year Internal Medicine resident at Universidad Central del Caribe/Hospital Ramon Ruiz/ Hospital Universitario.

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CLINICAL DIAGNOSTIC FEATURES OF PARKINSON'S DISEASE DEMENTIA

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Abstract

Background: Parkinson's disease (PD) is one of the most common neurological diseases, which is very common in the elderly. According to population studies, dementia occurs in 20-40% of patients with PD and becomes the main cause of maladaptation of patients.

Objective: To increase the reliability of the development of dementia in patients with PD by a comparative assessment of PANDA ,PD-CRS scales and level of dehydroepiandresterone sulfate

Methods: We examined 80 patients with PD, who were divided into 30 patients depending on the presence or absence of cognitive impairment and dementia. As a control, we also examined on a voluntary basis 20 healthy persons recognized as such by a special commission

The diagnostic efficacy of neurosteroids has been established, including the level of DHEAS and cortisol in the blood serum of patients for early diagnosis of cognitive impairment and monitoring the effectiveness of therapy, identifying a risk group in PD. Cognitive status was analyzed using the MMSEs cale ,FAB and MoCa to identify dementia.

Results: Test indicators of cognitive impairment revealed a distinct difference in digital values, characterized by low data on MMSE, FAB and MoCa in patients of the main group. Cortisol revealed a tendency to its increase in the blood in patients of the main group (1053,9 ± 39,1), both in relation to the comparative(616 ± 16,5) and control groups (437,4 ± 13,3). The level of dehydroepiandresterone sulfate progressively decreased, reaching its minimum value in patients of the main group (2,4 ± 0,4). The comparative group (6,3 ± 0,7) in this case occupied a borderline value. Two bipolar tendencies between hormones were identified in the form of a direct relationship with cortisol and an inverse relationship with dehydroepiandresterone sulfate. However, the significance of these relationships with the scales was at different levels of significance. So, in the case of cortisol, the inverse correlation gradually increased depending on the level of approximation of the MMSE/FAB/MoCa scales. At the same time, the level of the hormone dehydroepiandrosterone sulfate did not change unequivocally.

Conclusion: The diagnostic efficacy of neurosteroids was established, including the level of dehydroepiandrosterone sulfate and cortisol in the blood serum of patients for the early diagnosis of cognitive impairment and monitoring the effectiveness of therapy, identifying a risk group in PD.

Biography

Okhunova D.A is a PhD student in Tashkent Medical Academy.

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VERTEBRO-BASILAR INSUFFICIENCY: NEUROPHYSIOLOGICAL FEATURES

Aripova Feruza Mirzaxodjayevna, Yulbarisov Abdurasul Abdujalilovich, Axmatov Olimjon Mustapoqulovich and Djalilov Abduvali Abdumutalovich

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Abstract

Background: To study the results of neurophysiological complications in patients with vertebrobasilar insufficiency.

Material and Methods: We analyzed the results of examination of 168 (100%) patients with vertebrobasilar insufficiency, who were hospitalized at the Republican Specialized Center for Surgical Angioneurology. All patients, regardless of the stage of the disease, underwent an electroencephalographic examination. All of these patients had a history of dizziness, irritability, and tinnitus. Of these, TIAs were identified in 62 (36%) and 26 patients (15%) had a history of ischemic stroke in the VBB.

Results: Neurophysiological study in patients showed that in patients with vertebrobasilar insufficiency, the third type of electroencephalogram dominates, characterized by disorganization of the main activity; a mildly normal type of electroencephalogram is detected less often by 3 times compared to the control group, the third and second types are more often presented, including periodic slow activity, the relative power of alpha, beta rhythms and the frequency of the alpha rhythm are significantly lower, 1.5 times the relative power of theta activity of the dominant hemisphere increases. In patients with mild vertebrobasilar insufficiency, connections in the alpha range of remote points of the dominant hemisphere increase, the development of a more pronounced stage of the disease is accompanied by their decrease while maintaining local intrahemispheric connections in the parietal-occipital region, which, combined with changes in spectral characteristics, indicates deregulation at the level of activating nonspecific thalamo-cortical system. Neurological symptoms are represented by mild and moderately expressed syndromes, signs of circulatory insufficiency in the vertebrobasilar basin predominate.

Biography

Aripova Feruza Mirzakhodzhaevna neuropathologist- neurophysiologist. Has 10 years of work experience. She has been working as a neuropathologist - neurophysiologist for more than 12 years. Independent Applicant.

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POST-STROKE EPILEPSY: MANAGEMENT OF DIAGNOSIS AND INTRODUCTION OF PATIENTS.

Sobirova Donokhon Saidaskarxanovna, Kim Inna Georgievna and Samatov Orif Rabbimovich

7th Clinical City Hospital, Uzebekisthan

Abstract

Background: The main cause of seizures in adults over 60 years of age is cerebrovascular disease, leading to hemorrhagic and ischemic strokes.

Aim: To determine the necessary volume of diagnostic studies of patients with post-stroke epilepsy and to determine the therapeutic strategy.

Materials and methods: 77 patients with post stroke epilepsy and 30 practically healthy volunteers with an average age of 60 to 69 years were examined.

Results: Among the patients of the main group, 33.7% suffered an ischemic stroke, 13% hemorrhagic stroke and 53.2% a transient ischemic attack. In all patients, epileptic seizures occurred for the first time after an acute cerebrovascular accident and were of a structural nature. At the same time, convulsions were generalized in 27.2%, focal in 50.6% and unspecified in 22.1%.In EEG study, 43% of patients showed mild damage to brain structures, 57% had disturbances in background activity in the form of generalized slow wave activity, epileptiform disorders, periodic or rhythmic discharges.

Conclusion: 1.The reason for the development of structural epilepsy in stroke patients is morphostructural changes in the brain caused by acute cerebral vascular accident.

2. The volume of diagnostic studies in post-stroke epilepsy should call for both an EEG study and MRI and MR angiography, duplex scanning of blood vessels.The therapeutic strategy consists of long-term therapy with anticonvulsants, defined according to the type of seizure, anticoagulants, antiplatelet agents, and vasoactive drugs.

Biography

Donokhon sobiriva is a Neurologist at 7th City Hospital, Uzbekistan

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SHORT-TERM RESTRICTION OF HYPERTENSIVE ISIAH RATS LEADS TO ACTIVATION OF HYPOTHALAMIC NEURONS AND INCREASED BLOOD PRESSURE LEVELS

Yulia V. Makovka

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Abstract

Background: Hypothalamic neurons trigger neuroendocrine and autonomic adaptive responses to various challenges. Induction of early response genes is known to be observed in acute, but not in chronic stress. The ISIAH (Inherited Stress Induced Arterial Hypertension) rat strain is a model of a stress-sensitive form of arterial hypertension. Physiological and transcriptomic studies show that ISIAH rats, while at rest, are nevertheless under chronic functional stress of the neuroendocrine system involved in blood pressure regulation.

Objective: The aim of the study was whether immediate early genes can be activated under conditions of short-term restraint stress, which was used in the selection of the ISIAH rat strain.

Methods: Real-time PCR was used to study the expression changes in immediate early genes (*Fos, Jun*) and several related genes (*Jdp2, Nr4a3, Esrra, Ppargc1a*) encoding transcription factors in the hypothalamus of adult ISIAH male rats exposed to 30, 60 and 120 minutes of restraint stress.

Results: The results confirmed the activation of *Fos, Jun, Nr4a3* and *Ppargc1a* genes. Since increased Fos expression is a recognized marker of neuronal activation, our results showed that restraint stress for 1 hour leads to activation of hypothalamic neurons in ISIAH rats. The dynamics of Fos gene transcription activation coincided with the dynamics of increase in blood pressure, indicating a functional association between these processes. The negative correlation between the expression of the *Jun* and *Jdp2* genes indicates significant activation of the AP-1 transcriptional complex. Peaks of *Nr4a3* and *Ppargc1a* gene transcription were observed 2 h after stress exposure, which agrees well with the concept of their cascade activation.

Conclusion: Although ISIAH rats are characterized by genetically determined basal enhancement of hypothalamic adrenal cortical and sympathetic adrenomedullary systems activity, short-term restriction of hypertensive ISIAH rats leads to activation of hypothalamic neurons and increased blood pressure levels.

The study was supported by the Russian Science Foundation (Grant No. 22-14-00082).

Biography

Yulia V.Makovka graduate student at Novosibirsk State University (Faculty of Natural Sciences, Department of Cytology and Genetics, major – genetics). Participates in studies related to genetics of stress reactivity in arterial hypertension.

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CHARACTERISTICS OF PAIN SYNDROME IN POSTHERPETIC NEURALGIA OF THE TRIGEMINAL NERVE WITH COMORBID HERPES VIRUS INFECTION

Rasulova Raykhon Pardaevna

Termez branch of TMA, Uzbekistan

Abstract

Background: Herpes viruses affect the central and peripheral nervous system. Postherpetic trigeminal neuralgia belongs to the group of severe transient neuralgia.

Purpose of the study: To study the nature of pain in the defeat of the trigeminal nerve in comorbid herpes infection.

Research methods: The study is based on examination data of 40 patients (30% men and 70% women) with postherpetic trigeminal neuralgia. All patients underwent general somatic and neurological examination. To assess the severity of the pain syndrome, the VAS scale was used; to determine the neuropathic nature of pain, the DN4 and PainDetect questionnaires were used.

The control group consisted of 24 practically healthy people of the same sex and age.

Results of the study: All patients (100%) had severe acute pain at the site of herpetic eruptions and scars, paresthesias were observed in 74.6% of patients.

The intensity of pain in patients before treatment on the VAS scale was 8.2 ± 1.4 points, which reflects the high intensity of pain.

When interviewing all (100%) patients on the DN4 questionnaire, the average score was 7.8±1.6, which corresponds to neuropathic pain.

According to the PainDetect questionnaire, pain intensity indicators were 22.7 ± 6.5 points, which indicated the presence of a neuropathic pain component. When analyzing the results of the PainDetect questionnaire, it was found that in 27 patients (67.5%) the pain syndrome in patients with lesions of the trigeminal nerve with comorbid herpes infection had neuropathic pain (above 19 points).

Conclusion: Pain syndrome in postherpetic trigeminal neuralgia with comorbid herpes infection is characterized by the formation of a pronounced neuropathic pain syndrome. Herpes viruses affect the central and peripheral nervous system. Postherpetic trigeminal neuralgia belongs to the group of severe temporary neuralgia. We developed this thesis as a result of studying the nature of pain in the defeat of the trigeminal nerve in comorbid herpes infection. Viruses of the herpes group are associated with significant social and economic losses for society - mainly, the loss of the patient's ability to work, restrictions in daily activities due to long-lasting, persistent and often resistant to therapeutic pain. After much effort, we managed to achieve an effective result and start showing positive results. This approach is in the interests of all stakeholders and has its own characteristics.

Biography

Raykhon Rasulova is now PhD student in a Termez branch of TMA in Uzbekistan.

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THE ROLE OF IMMUNE-INFLAMMATORY BIOMARKERS IN 3-MONTHS OUTCOME IN ACUTE ISCHEMIC STROKE

Abdurakhmonova Kutlibika Bakhtiyorkizi

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Abstract

Background: It is clear that, inflammation worsen cerebral injury at the acute phase of stroke. Immune-inflammatory processes proceed during the all periods of AIS and effect on outcomes of a stroke (4). Neutrophils, lymphocytes and platelets are main blood cells of the immune-inflammatory system and can quickly be assessed during regular laboratory studies. The purpose of our research was to investigate the association between Neutrophil-to-lymphocyte ratio (NLR), lymphocyte-to-monocyte ratio (LMR) and systemic immune-inflammation index (SII) and the prognosis of acute ischemic stroke (AIS) over 3-months period.

Methods: 118 patients with AIS who treated at Tashkent Medical Academy were included in the study. The fasting blood within 24 hours of admission was collected to determine the concentration of the clinical indicators. The functional prognosis was assessed using the modified Rankin Scale (mRS) 3 months after stroke. The poor prognosis is described as mRS ≥ 3. Predictive ability of each biomarker has also been evaluated with ROC analysis.

Results: NLR and SII were found to be independent predictors of 3-month outcome (odds ratio (OR) =1.1; 95 % confidence interval (95 % CI), 1.064–1.134; p = 0.04) (area under the curve (AUC) =0.751 %) and (odds ratio (OR) =1.0; 95 % confidence interval (95 % CI), 1–1; p = 0.007) (area under the curve (AUC) =0.784 %), respectively. Independent associations with functional outcome were not established for LMR,

Conclusions: Our study demonstrated that high NLR and SII at ED admission could be useful marker for predicting poor functional outcome at 3 months after stroke, while LMR was not correlated with functional outcome.

Biography

Abdurakhmonova kutlibika Bakhtiyor kizi is a PhD researcher at Tashkent Medical Academy. Moreover, she is the member European Academy of Neurology(EAN), International Headache Society and European Stroke Organization. She is an author of more than 40 articles and thesis. Her main area of practical experience is cerebrovascular diseases.

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CLINICAL PATHOGENETIC FEATURES AND THE DIFFERENTIATED APPROACHES TO TREATMENT OF THE ARTERIAL HYPERTENSION ASSOCIATED WITH CHRONIC CEREBROVASCULAR INSUFFICIENCY

Nargiza Makhkamova

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Abstract

The Aim of the Research: objective is determination of clinical - pathogenic and molecular and genetic features of the chronic cerebrovascular insufficiency associated with an arterial hypertension, and development of the differentiated approaches to their pharmacotherapy.

Research objectives: To analyse clinical - anamnestic and neurocognitive characteristics and also structure of risk factors at sick AG with development of chronic brain ischemia (CBI).

To define interrelation of features of daily dynamics of arterial blood pressure with the clinical course of chronic brain ischemia

To study features of the central hemodynamics and structural changes of carotid arteries depending on a stage of chronic brain ischemia.

To study the frequency of occurrence and interrelation of polymorphisms of genes of APF, APOE, NO - synthase at patients with an arterial hypertension from chronic brain ischemia.

The object of the research were 218 patients with AH of I-III degrees (ESC/ESH, 2017). The control group consisted of 59 healthy people of both sexes

Scientific novelty of a research is as follows: The features of the arterial pressure (AP) daily profile contributing to the development and progressing of cerebrovascular insufficiency at AG are revealed: sick AG "non-dipper", "night-pickers" and patients with the raised pulse AP more are exposed to development of cerebrovascular diseases.

At sick AG the association of authentically expressed defeat of bodies of targets (diastolic dysfunction, changes of a volume blood-groove, the index of rigidity of arteries, one - and bilateral an atherosclerotic plaque of carotid arteries) with development of chronic cerebrovascular insufficiency and cognitive disturbances is established.

Molecular and genetic predictors of development of cerebrovascular diseases at AG are defined. The D-allele and the DD genotype of I/D of polymorphism of a gene of APF, ε4-2/ε3/ε4 allele polymorphism of a gene of APOE, a 4a-allele and 4a/4a a genotype of 4a/4b of polymorphism of a gene of eNOS are damaging concerning development of cerebrovascular diseases in sick AG of the Uzbek nationality.

The differentiated and effective combination of antihypertensive drugs – a perindopril with lerkanidipin, a valsartan with indapamid and vasoactive, neuroprotective drugs depending on a stage and clinical - pathogenetic features of chronic cerebrovascular diseases at sick AG is proved.

Biography

Makhkamova Nargiza Utkurovna was born in 1967 in the city of Tashkent, Uzbek nationality. In 1989 graduated from the medical faculty of the Tashkent State Medical University. Since 2003 been working as a senior researcher at the Department of Cardiocerebral Pathology of the Republican Center for Specialized Cardiology, and since 2015, working as the head of the Department of Cardiocerebral Pathology. In 2019 received the degree of doctor of medical sciences.

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ASSESSMENT OF DAYTIME SLEEPNESS IN PATIENTS WITH EPILEPTIC SEIZURES DURING SLEEP

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Abstract

Introduction: There is currently a complex relationship between sleep and epilepsy. It is known that sleep disturbance can provoke epileptic seizures and at the same time, epilepsy itself can have a variety of effects on the structure of sleep. Among patients with epilepsy, one of the main complaints can be sleep disturbance and daytime sleepiness, which, in turn, can significantly affect the patient's ability to work and quality of life.

Research objectives: In this regard, the purpose of our study was to study the severity of daytime sleepiness in patients with epilepsy.

Materials and research methods: We examined 30 patients with epilepsy. Daytime sleepiness was assessed using the Epworth scale. The mean age of the patients was 26.6 ± 1.3 years.

Research results: In the patients examined by us, 16 had only nocturnal epileptic seizures, and in 14 individuals seizures occurred regardless of the time of day. In 83.4% of cases there were focal, and in 16.6% generalized epileptic seizures. Of the 16 patients with nocturnal seizures on the electroencephalogram, the epileptic focus was recorded in 11 cases in the frontal lobe, in 3 cases in the temporal lobe.

A study of patients on the Epworth scale showed that increased daytime sleepiness was observed in 22 examined patients, while 8 disorders were not detected. Comparative analysis of indicators of daytime sleepiness depending on the type of epileptic seizures revealed higher rates in patients with focal epileptic seizures compared to generalized ones (10.6 and 8.7 points, respectively). In the group of patients with nocturnal epileptic seizures, the daytime sleepiness score was 11.4 points, while in the comparative group it was 7.9 points. In addition, the amount of antiepileptic drugs used also influenced the severity of daytime sleepiness. Thus, patients who took two or more drugs had higher rates of daytime sleepiness than patients with monotherapy (11.2 and 9.7 points, respectively).

Conclusion: Thus, the study shows that the severity and degree of violation of daytime sleepiness depends on the type of epileptic seizures, the ratio of epileptic seizures to the sleep-wake cycle. The widespread occurrence of excessive daytime sleepiness in patients with epilepsy indicates the importance of this problem. Therefore, timely elimination of the causes of this problem, correction of drug therapy and, accordingly, control of seizures can significantly reduce the severity of daytime sleepiness and, as a result, improve the quality of life of patients.

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FUNDAMENTALS OF NEUROREHABILITATION OF PATIENTS WITH FINE MOTOR DISORDERS AND THE MOBILE APPLICATION "STROKE ASSIST"

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Tashkent medical academy, Uzbekistan

Abstract

Background: A stroke often leaves behind severe consequences in the form of movement disorders. Fine motor skills in the hand are one of the most common causes of persistent loss of professional skills, social maladaptation, and the inability to self-care in patients after a stroke.

Objective: To apply the prototype of the first multimedia visual mobile application "Stroke Assist" for the rehabilitation of fine motor skills in post-stroke patients.

Methods: We examined 25 patients with ischemic hemispheric stroke in the departments of neurology of the Tashkent Medical Academy during 2022-2023. The main group consisted of patients with hemispheric stroke in the acute period (n=15), and the control group in the recovery period (n=10). All patients underwent an in-depth clinical and neurological examination, the diagnosis was confirmed by the results of MRI, CT of the brain. For the purpose of static processing of the results of neurological examination, the NIHSS scales for assessing neurological status and the modified Ashworth scale for assessing spasticity in the hand were used. In addition to the standard ongoing course of inpatient treatment, patients underwent fine motor skills of the hand using the prototype of the mobile application.

Results: The study showed the best rates of recovery of motor disorders and fine motor skills in patients of group 1 compared to group 2. Patients exercising with the mobile app had less spasticity and contractures compared to patients without the app.

Conclusion: For the first time in the republic, a prototype of the first mobile application for the rehabilitation of movement disorders and fine motor skills in post-stroke patients in the uzbek language "Stroke Assist" was created and introduced into neurological practice.

Biography

Rasulova Dilbar Kamalitdinovna is a Doctor of the highest category, has a Ph.D. in Medical Science in Neurology department at Tashkent medical academy. Her main area of practical experience in the treatment and rehabilitation of stroke patients.

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DELAYED SPEECH DEVELOPMENT IN CHILDREN THE CONSEQUENCES OF USING MOBILE APPLICATIONS TOGETHER WITH MEDICATIONS IN THEIR TREATMENT

Qosimova Zarrina Aslonovna and Raximbayeva Gulnora Sattarovna

Tashkent Medical Academy, Uzbekistan

Abstract

Annotation: Speech is a special and perfect form of communication, inherent only to man. In the process of speech communication (communication), people exchange thoughts and interact with each other. Speech is an important means of communication between a child and the outside world. The communicative function of speech promotes the development of communication skills with peers, develops the possibility of playing together, which is invaluable for the formation of adequate behavior, emotional and volitional sphere and personality of the child. Currently, as a result of environmental factors, various infections, many other exogenous factors, and endogenous factors of women at puberty, among many congenital developmental defects in the fetus, improper development of speech centers of the cerebral cortex has increased.

The regulating function of speech is formed already at the early stages of the child's development. However, the word of an adult becomes a true regulator of the child's activity and behavior only by the age of 4-5, when the child has already significantly developed the semantic side of speech. The formation of the regulatory function of speech is closely related to the development of internal speech, purposeful behavior, the ability to programmed intellectual activity.

In the study of anamnesis, many parents indicated that already at an early age they paid attention to the absence or restriction of babbling in children. Parents noted the taciturnity, stressed that the child understands everything, but does not want to talk. Instead of speech, facial expressions and gestures developed, which children used selectively in emotionally colored situations. The first words and phrases appeared late. At the same time, parents noted that, in addition to lagging in speech, in general, children develop normally. The children had a meager active vocabulary, used babbling words, onomatopoeia and sound complexes. At the time of the examination, the volume of active vocabulary (the stock of spoken words) in children with ONR of the 1st level did not exceed 15-20 words, and with ONR of the 2nd level - 20-50 words.

Most often, motor alalia is diagnosed to children no earlier than 5-7 years old, although it was previously diagnosed from 2-2.5 years old, since it was from this age that groups were recruited to kindergartens with TNR, and in France and Switzerland they are now starting to work with motor alalics at an early age. Everyone understands that alalia is improper development of the speech centers of the cerebral cortex during the antenatal, intranatal and/or neonatal period of an unknown etiology, But at the same time, the diagnosis is made at such a late age, as if the child was developing perfectly until 5-7 years old, and then suddenly stopped talking, became aggressive and stupid. Or even worse - already at the age of 2 he was speechless, aggressive and with reduced intelligence. There are very few such children and they come under the supervision of other specialists immediately. But then at 5-7 years old, a lot of motor alalics appear out of nowhere. That is, the problem is also that they simply do not know how to see it before.

It is known that children with general speech underdevelopment need additional forms of speech kills support before entering school, Mobile games, as a rule, are highly interactive, allow them to immerse themselves in the content of the game context and increase the stability of attention, supporting the activity and involvement of the user. The popularization of mobile technologies and the introduction of mobile games makes a significant contribution to the instrumental block of speech therapy and psychological means to ensure a more exciting correctional and developmental process.

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It is known that children with general speech underdevelopment need additional forms of speech skills support before entering school, Mobile games, as a rule, are highly interactive, allow them to immerse themselves in the content of the game context and increase the stability of attention, supporting the activity and involvement of the user. The popularization of mobile technologies and the introduction of mobile games makes a significant contribution to the instrumental block of speech therapy and psychological means to ensure a more exciting correctional and developmental process.

Biography

Qosimova Zarrina Aslonovna was born on 01.12.1992., she is married and PhD student of the Department of Neurology of the Tashkent Medical Academy.

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CLINICAL COURSE OF CAVERNOUS SINUS THROMBOSIS AFTER COVID-19

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Abstract

Background: The occurrence of cavernous sinus thrombosis after COVID-19, which results in various clinical and neurological disorders, and the duration of their persistence are individual for each patient and have a different duration. The study of the connection between COVID-19 and cavernous sinus thrombosis, correlation with the severity of the disease and have an influence on the quality of life is a big problem of present.

Objective: To study the basics of the clinical course of the genesis of cavernous sinus thrombosis in patients with COVID-19.

Methods: 114 patients with cavernous sinus thrombosis associated with coronavirus infection were studied. Of these, 68 (59%) are male and 46 (41%) are female. Statistical analysis was carried out in the "Microsoft Excel 2010, descriptive statistics" program.

Results: The disease started with different (developed on average 21.2±1.73 days) symptoms in every patients. Common symptoms of CST: facial pain in 39 (34.5%) patients (male-20.3% and female-14.2%), facial oedema in 37 (33%) patients (male-15% and female -18%), in 31 (28%) had a headache (male-18% and female-10%), in 21 (19%) amaurosis (male-9% and female-10%), in 16 (14%) eye pain (male-5% and female-9%), ophthalmoplegia in 13 (11.5%) (male-6.5% and female-5), ambliopy in 12 (11%) (male-7% and started with female-4%). In some patients 4 (3.5%) had peripheral paralysis of the facial nerve (male-4%, female-0%), in 5 (4%) VIII cranial nerve palsy (men-1.7%, women-2.6%) as the initial symptom of the disease.

Conclusion: Therefore, clinical and neurological symptoms appear in the early stages of the disease in the areas innervated by the nerves passing through the cavernous sinus: III, IV, VI and 1-2 branches of the V cranial nerves. That is, many patients had severe pain in the head, face and facial oedema in the early stages of the disease, and later developed ophthalmoplegia and amaurosis.

Biography

PHD-student Said-Ahmedova S.K , Professor Yakubova M. M and DSc Rahmatullaeva G.K . In his work, partially investigated the clinical signs of cavernous sinus thrombosis after COVID-19, which has become one of the urgent problems of today. They believe that, this research will contribute to the development of medicine. In this research, she conducted open, sincere work with patients which are suffering from cavernous sinus thrombosis. The materials collected for the study were thoroughly studied and evaluated through accurate calculations. The results of this study were created using the "descriptive statistics" section of the Microsoft Excell 2010 program as a result of 3-year follow-up of patients.

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CLINICAL AND NEUROLOGICAL CHARACTERISTICS OF PATIENTS WITH CHRONIC CEREBRAL ISCHEMIA

Mirkhayotova N and Rakhimbayeva G S

Tashkent Medical Academy, Uzbekistan

Abstract

Background: Vascular diseases of the brain are an urgent medical and social problem. Mortality from cerebrovascular diseases in economically developed countries is 11-12% and is second only to mortality from heart diseases and tumors of all localizations.

Objective: To study the progression of cerebrovascular insufficiency against the background of the combined course of hypertension and atherosclerosis, depending on gender and age.

Methods: A comprehensive examination of 90 patients with Chronic cerebral ischemia of stage I, II and III on the background of arterial hypertension, cerebral atheroscleros is was conducted. The age of the patients was in the following range - 56-84 years (average age 69.7 ± 8.1 g). The diagnosis and stages of CHCI were established using criteria adopted in our country based on the results of clinical neurological, neuropsychological and instrumental (duplex scanning, MRI of the brain) examinations of patients.

All the examined patients were divided into 3 group. Group I consisted of 30 patients with CHCI I, average age 63.1+5.1 years, of which 13 men (43.3%) and 17 women (57.7%), the ratio of men: women was 0.8:1.0. Group II included 30 patients with CHCI II at an average age of 74.2+8.4 years, including 16 men (53.3%) and 14 women (46.7. Group III included 30 patients with CHCI III aged 79.6+9.4, of whom 12 were men and 18 were women. The control group (CG) included 20 patients, 10 men and 10 women with an average age of 63.1+6.4 years.

Results: All patients presented complaints characteristic of cerebrovascular pathology. Complaints of group I patients were presented either as separate symptoms of headache, dizziness, decreased memory, mental performance, headache, dizziness, noise in the head.

Conclusion: Thus, among patients with CHCI, women slightly prevailed - 59 people (53.6%), the gender index was - men-women - 0.9:10. During clinical and neurological examination, it was revealed that with the progression of CHCI, complaints become more pronounced and at the expanded stages, a different spectrum of organic disorders of behavior, mood, personality is clearly demonstrated. From this it should be concluded that the prevention of the progression of cerebrovascular insufficiency against the background of the combined course of hypertension and atherosclerosis should be started at the early stages of the formation of this syndrome.

Biography

Mirkhayotova Nozimakhon graduated from the master's degree in neurology at the Tashkent Pediatric Medical Institute. Currently, she is a doctoral student in the Department of Neurology of TMA. The scientific work consists in studying the features of perfusion and metabolism of the brain in patients with chronic cerebral ischemia.

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THE EFFECTS OF ANTICONVULSANTS ON VITAMIN D LEVELS AND BONE METABOLISM IN WOMEN WITH EPILEPSY

Yusupova D Y and Muratov F Kh

Tashkent Medical Academy, Uzbekistan

Abstract

Background: Side effects of AEDs have a significant impact on quality of life and contribute to treatment failure. One of the major concerns with the use of AEDs is the occurrence of significant metabolic effects on bone, since AED treatment is administered over many years or throughout life and since most effects on bone remain subclinical for a long time and may take years to occur. they will manifest themselves clinically.

Objective: To determine the level of vitamin D and markers of bone metabolism in women of fertile age receiving anticonvulsant therapy.

Methods: We measured serum levels of 25- OHD , parathyroid hormone, osteocalcin , and bone alkaline phosphatase in healthy controls (n = 30) . and in patients with epilepsy taking CBZ (n =25) or OXC (n =26) as monotherapy . Patients with CBZ were subsequently switched to monotherapy overnight OXC .

Results: 25-OHD levels were lower in each drug group (OXC, 17.4 ± 1.3 pg /mL; CBZ , 22.5 ± 3.0) than in controls (25.8 ± 2.0) ($p = 0.052$). This difference was significant for the OXC group ($p < 0.05$). PTH did not differ significantly between groups. Osteocalcin levels were slightly increased in the OXC group (2.7 ± 0.5 ng /ml) and more clearly and significantly increased in the carbamazepine group (3.49 ± 0.3) compared to controls (2.41 ± 0.34) ($p = 0.043$). The combination drug treatment group had significantly higher bone alkaline phosphatase levels ($p = 0.02$) and lower 25-OHD levels ($p = 0.01$) than the control group. The latter remained significant even after controlling for the confounding effect of age on 25-OHD levels ($p < 0.05$).

Conclusions: Patients with epilepsy taking OXC or CBZ have significantly lower 25-OHD levels than controls, with a pattern of changes in other bone biomarkers suggestive of secondary hyperparathyroidism In patients taking CBZ or OXC, it may be advisable to substitute 25-OHD.

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THE SIGNIFICANCE OF DHEA-S AND VEGF MARKERS IN PATIENTS WHITH FRAILTY SYNDROME

Yusupova DY Khodjaeva MF and Rakhimbaeva GS

Tashkent Medical Academy. Uzbekistan

Abstract

Background: Frailty syndrome is a common syndrome in the elderly associated with aging, comorbidities, disability, and poor cognitive outcomes, endocrine dysregulation, and immune dysfunction. In this regard, among many researchers there was a question about the relationship of hormonal dysfunction with aging. Levels of the adrenal hormone dehydssroepiandrosterone sulfate (DHEA/S) have been found to decline steadily with age by 10% per decade after age 40. DHEA/S exhibit many biological activities in various tissues and organs. In particular, DHEAS are produced de novo in the brain, stimulate neuronal growth, neurogenesis and neuronal survival, and apoptosis. Along with antioxidant, anti-inflammatory and anti-glucocorticoid properties, a neuroprotective effect of DHEA/S has been hypothesized

Objectives: To study the characteristics of DHEA-S and VEGF in patients frailty syndrome and in elderly people without frailty and to conduct a correlation analysis of the above biomarkers.

Methods: Patients were recruited in the therapeutic departments of the TMA clinic from March 2022 to 2023. The parameters of DHEA-S and VEGF in blood serum were studied by ELISA analysis in 32 patients with frailty syndrome and 20 healthy elderly people without frailty. Blood samples were collected to measure the levels of DHEA-S, VEGF in all participants and then correlate them with each other.

Results: Interesting data were obtained, in all elderly people, vascular growth factor (VEGF) values were increased from these normal reference values, but in the frailty group, these values were lower compared to healthy controls. The level of DHEA-S also showed low values in individuals with frailty, in contrast to individuals without it. DHEA-S was significantly associated with VEGF scores when age, sex, and presence of frailty were controlled ($P<0.01$). The level of DHEA-C significantly correlated with the VEGF index ($r=0.489$, $P<0.01$).

Conclusion: Our results confirm that serum levels of DHEA-C and VEGF may be a biomarker of cognitive dysfunction in frailty.

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DEMENTIA APPLICATION FOR DIAGNOSIS & TRACKING (DADT)

Soubhik

Manastik, India

Abstract

One of the leading causes of global disabilities is Neurological disorders, further it is the one of the top 10 life impacting disorders. It's hard to provide proper Neurological care due to certain factors not limited to affordability but also conveyance problems around rural areas. Teleneurology and Teleneurorehabilitation have immense potential for chronic conditions related to caring people around the world. Teleneurorehabilitation can be approached differently in high- income and low-income countries.

With the advent of technology, especially smartphones, we are looking at a billion people, whose lives can be touched upon and personalized care can be given. Telestroke has clearly shown the pathway. Artificial Intelligence, coupled with mobile phones and wearable sensors, can not only guide but also monitor care through frequent and real-life assessment of patients.

We are developing an online ecosystem that helps with neurological evaluations and cognitive testing for people suffering from dementia. Dementia Active Diagnosis and Tracking (DADT) enables a common platform for the doctors to make cognitive assessment for screening and tracking the progression of dementia by consulting the summarized history; as well as for the caregivers to stay connected with the doctors, and find helpers, etc. It further provides mechanism for the patients to take a test remotely and send the results for evaluations immediately for early detection and tracking efficiency. As a part of patients and caregivers' journey, the platform helps them with Neurorehabilitation exercises as a mode of therapy right from the very early stage.

One of the ways in which we are getting this done is by leveraging advanced technologies such as Artificial Intelligence & Data Analytics. In parallel, research is being carried out to ensure that we are optimizing the parameters to be tracked and other test factors. This will go through a rigorous clinical trial after it's first version is out.

Overall, catering to early detection, screening & progression tracking of dementia, a Teleneurology & Teleneurorehabilitation platform is being developed for effective treatment, rehabilitation and better quality of life for dementia patients.

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CRYPTOCHLOROGENIC ALLEVIATES THE JMJD3-MEDIATED ENDOTHELIAL CELLS INJURY IN ALZHEIMER'S DISEASE

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Abstract

Background: Nowadays, no drugs have proven efficacy for Alzheimer's disease (AD) due to the complexity of etiology. Neurovascular dysfunction is ubiquitous within the AD brain. Vascular alterations, including blood vessels with collapsed or degenerated endothelia, have been found in more than 90% of AD patients. Therefore, reducing vascular injury is critical for intervening AD progression and the treatment of AD.

Objective: This study aimed to investigate the underlying mechanism of Cryptochlorogenic acid (CCGA) in preventing vascular endothelial cell injury in AD.

Methods: We established an AD vascular endothelial cell injury model using human umbilical vein endothelial cells (HUVECs) treated with AD serum, while HUVECs induced by serum from healthy individuals were used as a control. Following treatment with CCGA, we evaluated various aspects of AD serum-induced HUVEC function, including proliferation, apoptosis, cell cycle, migration, and angiogenesis. Additionally, we conducted proteomic, transcriptomic, and metabolomic analyses. Finally, Western blotting and immunofluorescence were employed to investigate the potential mechanisms involving JMJD3.

Results: We successfully established the AD vascular endothelial cell injury model and found that CCGA could mitigate the injury caused by AD serum, including effects on proliferation, migration, and angiogenesis in HUVECs. This protective effect was mediated by the NF-κB/JMJD3 signaling pathway. Furthermore, we identified several inflammatory factors, including CCL20, CCL5, CSF1, CSF3, CXCL1, CXCL10, IL-13, IL-1A, IL-1R1, IL-8, MMP1, PAI-2, and SIRT6, which may be associated with the reparative effects of CCGA.

Conclusion: By successfully inducing an injury model of endothelial cells, specifically HUVECs, using AD serum, we demonstrated that CCGA exhibits protective effects in AD serum-induced HUVECs due to its anti-inflammatory activities. These findings suggest that CCGA has the potential to be a therapeutic agent for AD.

Biography

Guo's proposed research aims to use models of injured endothelial cells to investigate epigenetic phenomena and develop novel treatments for aging-related illnesses and injuries. The study focuses on understanding the regulatory mechanisms of gene expression in vascular endothelial cell injury and aging, with the ultimate goal of exploring the potential of using small molecular compounds to prevent and treat such injuries. The research encompasses the prevention and treatment of vascular endothelial cell injury associated with conditions like Alzheimer's disease, diabetes, and septicemia, thereby offering new perspectives on age-related diseases.

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ENDOVASCULAR THERAPY FOR ACUTE TANDEM OCCLUSIONS DUE TO INTERNAL CAROTID ARTERY ATHEROSCLEROTIC

Li Wei

Hainan Medical University, China

Abstract

Several studies have demonstrated the benefit of endovascular treatment in patients with acute anterior tandem occlusions (TO). Consider for imminent reocclusion or recurrent embolization after successful mechanical thrombectomy, some interventionists advocate for acute extracranial ICA stenting. Whereas others prefer to perform only balloon dilatation because of several potential concerns regarding technical complexity, hyperacute in-stent thrombosis, and the risk of symptomatic intracranial hemorrhage (ICH) due to double antiplatelet regimen-especially in some severe cases with low ASPECTS scores and rtPA on board. At the meanwhile, the etiology of internal carotid occlusion (some were atherosclerotic disease and other cases were arterial dissection) was heterogeneous in these retrospective, observational cohorts studies. Patients with cervical dissection should be managed differently from those with atherosclerotic disease.

Therefore a multicenter, retrospective cohort study was performed, aiming to investigate the differences in effectiveness and safety between balloon angioplasty alone and acute stenting using propensity score matching (PSM) analysis in acute tandem occlusions (TO) due to internal carotid artery atherosclerotic disease.

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ASSOCIATION BETWEEN IRON DEFICIENCY ANAEMIA AND ISCHAEMIC STROKE.

Preethy Manoj

Royal College of Surgeons in Ireland, Ireland

Abstract

Background: Stroke is a leading cause of disability and death in adults. Hypertension, diabetes mellitus, hyperlipidaemia and atherosclerosis are reported to be the most common causes for stroke. The World Health Organisation has reported that the most common nutritional deficiency in the world is iron deficiency anaemia (IDA) affecting 30% of the world's population. However, very little is known about the association between IDA and stroke in adults. This systematic review aims to evaluate the association between IDA and ischemic stroke in adults.

Method: The Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) was used to guide the review. The main databases such as CINAHL, PUBMED, MEDLINE, COCHRANE, HSE online library, and Wiley Online library were searched. Twelve relevant articles including one case presentation, one case control study, and ten case reports were included in the review. Quality Appraisal was undertaken using the BI (Joanna Briggs Institute) critical appraisal checklist. Following data extraction, a narrative analysis of the results was completed.

Results: Patients in the included studies, were diagnosed with ischaemic stroke. They had low haemoglobin level. Their stroke symptoms improved with iron treatment and transfusions. From this review it appears that an association exists between IDA and ischaemic stroke. Menorrhagia and rectal bleeding were identified as the main cause of IDA in females and males respectively.

Conclusion: Considering this review, IDA should be considered as a possible risk factor for stroke. However, more primary research studies are necessary to authenticate this finding.

Biography

Preethy Manoj is a Third year PhD scholar in Royal College of Surgeons in Ireland

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RADIOLABELING FTY-720 WITH [^{99M}TC]TC: ASSESSING BIOLOGICAL AFFINITY FOR NEURODEGENERATIVE DISEASES

Emre Uygur, Yasemin Parlak, Kadriye Busra Karatay, Ceren Sezgin, Fikriye Gül Gümüşer and Fazilet Zumrut Biber Muftuler

Manisa Celal Bayar University, Turkey

Abstract

Background: Fingolimod (FTY-720) is an FDA-approved oral medication for multiple sclerosis treatment. It acts by binding to sphingosine-1-phosphate receptors (S1PRs) in the central nervous system, crossing the blood-brain barrier. FTY-720 offers neuroprotection by modulating S1PR1 and mitigating neural damage caused by mitochondrial dysfunction and cytotoxicity. Radiolabeling FTY-720 with technetium-99m [^{99m}Tc]Tc allows for investigating its biological affinity and potential diagnostic applications.

Objective: This study aimed to assess the biological affinity of [^{99m}Tc]Tc-FTY-720 by radiolabeling FTY-720 and conducting *in vitro* experiments. The focus was on evaluating the radiochemical yield, stability, and uptake of [^{99m}Tc]Tc-FTY-720 on the SH-SY5Y cell line.

Methods: FTY-720 was radiolabeled with [^{99m}Tc]Tc using a direct radiolabeling procedure. The radiochemical yield was determined using thin-layer radio chromatography (TLRC) and high-performance liquid radio chromatography (HPLRC). Stability studies were conducted over 4 hours period. Lipophilicity of [^{99m}Tc]Tc-FTY-720 was compared to FTY-720. FTY-720 was also labelled with inactive rhenium [^{185}Re] (Re-FTY-720) to determine the possible position of the [^{99m}Tc]Tc in FTY-720 and analyzed via HPLC and 1H-NMR. Incorporation studies were carried out on the SH-SY5Y cell line.

Results: The study achieved a radiochemical yield of over 95% for [^{99m}Tc]Tc-FTY-720. Stability study showed that the compound remained stable during the 4 hours period. [^{99m}Tc]Tc-FTY-720 demonstrated uptake on the SH-SY5Y cell line. Lipophilicity of [^{99m}Tc]Tc-FTY-720 was found to be decreased compared to FTY-720.

Conclusion: The radiolabeling of FTY-720 with [^{99m}Tc]Tc yielded a stable compound with high radiochemical yield. The radiolabeled compound could be encapsulated with poly(lactic-co-glycolic acid) (PLGA) to increase lipophilicity. [^{99m}Tc]Tc-FTY-720 exhibited promising uptake on the SH-SY5Y cell line, it could be suggested high biological affinity as an agent for neurodegenerative diseases. Further research is warranted, including in vivo studies and clinical trials, to validate its efficacy and safety for neurological disorders.

Biography

Emre Uygur is a nuclear chemist currently affiliated with Manisa Celal Bayar University. He holds a Ph.D. in Nuclear Sciences from Ege University and has been involved in successful research projects supported by TÜBİTAK (The Scientific and Technological Research Council of Turkey). In addition to his TÜBİTAK-funded work, he has also served as a project coordinator and researcher in projects funded by the European Union and the United States. Dr. Uygur's research primarily revolves around the development of radiopharmaceuticals, with a specific focus on utilizing them for imaging neurodegenerative diseases, particularly Parkinson's disease. His studies contribute to the advancement of diagnostic approaches for neurodegenerative diseases as well as various types of cancer using radiopharmaceuticals.

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NEUROPHYSIOLOGICAL GRADING TOOL OF ULNAR NERVE ENTRAPMENT ACROSS WRIST AND ACROSS ELBOW WITH CASE PRESENTATION

Salim Hirani

Ysbyty Gwynedd Hospital, United Kingdom

Abstract

Ulnar nerve entrapment across the elbow (UNEAE) and across wrist (UNEAW) is the second most common entrapment of the hand after carpal tunnel syndrome. There are few gradings available for UNEAE and lesser in UNEAW.

The aim of this research is;

1. To create a clinically appropriate ulnar nerve entrapment grading tool to covers both area of entrapment in one research paper.
2. To see the relation of sensory nerve involvement across wrist with the entrapment across elbow and to evaluate its effectiveness in terms of compatibility with previous research, without any invasive tests like needle EMG examination.
3. To identify the lesion below and across wrist in terms of to support the clinical Physiologist (CP) to grade them properly and also help the consultant in deciding to treat with conservative or surgical treatment.
4. To compare the recording from the first dorsal interosseous (FDI) muscles with the abductor digiti minimi (ADM) muscle to see which muscle is more sensitive and shows early changes in ulnar nerve entrapment.

The proposed revised grading system is based on more nuanced, descriptive categories, ranging from “normal”, “early”, “mild”, “moderate” and “severe”. To create full grading system of UNEAW and UNEAE some additional category of clinical grading is therefore proposed.

What will audience learn from your Presentation:

My presentation is interested for those who are involve in recoding Neurophysiology nerve as well as those surgeon, who are involved in hands surgery. This will give them information to decide a conservative or surgical treatment if they can follow the information. My presentation will help to those who are interested to join the Neurophyiological field or in surgical field in future. My grading will give them precise lesion of entrapment in a simpler way and make their job easy.

Biography

Salim Hirani is working in Neurophysiology field for more than 30 years. He did is Neurophysiology course from United Kingdom. He works in different country and can speak 4-5 languages. His three paper was already published i.e. Refine Grading of Carpal Tunnel syndrome in BMC journal in 2019, Neurophysiological Grading tools of ulnar nerve entrapment across elbow in Journal of Neurology, Neurological Science and Disorders in 2023 and third paper of Neurophysiological Study for Ulnar Entrapment at Wrist (meddocsonline.org) in Journal of Psychiatry and Behavioural Sciences in June 2023

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COMPARISON OF RHFGF18 AND RHGDF11 SAFETY, EFFICACY, AND MECHANISTIC ACTIVITY IN THE TREATMENT OF ISCHEMIC STROKE

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Abstract

Background: Stroke remains the second-leading cause of death and third-leading cause of disability worldwide with an estimated global prevalence exceeding 100 million. Pharmacological treatments for ischemic stroke remain limited to thrombolysis, which is associated with increased risk of potentially fatal cerebral hemorrhage. Several investigational therapies including grow factor-based rhFGF18 and rhGDF11 appear promising, offering potential for neuroprotection and neuroregeneration. Despite this, little is known about their mechanistic activity and efficacy profile in comparable preclinical models.

Objective: Our research aimed to evaluate the effects of rhFGF18 and rhGDF11 directly on survival, behavioral deficits, and histological fingerprint of cerebral ischemia in the high-susceptibility Wistar rat middle cerebral artery occlusion (MCAO) model of stroke.

Methods: Cerebral ischemia-reperfusion injury was induced using a 2-hour MCAO. Male and female animals were randomized to rhFGF18 (infusion), rhGDF11 (multi-injection), or Phosphate Buffered Saline (PBS) vehicle control and followed for 42 days. Morris Water Maze (MWM) was used to assess motor-cognitive deficits pre-MCAO, and following treatment (Days, 7, 21, and 42). Histopathological assessments were performed on Days 21 and 42 to evaluate neurodegenerative parameters and metabolic activity.

Results: Day 7 post-ischemia MWM performance times increased 38.3%, 2.1%, and 23.1% for PBS, rhFGF18, and rhGDF11-treated groups respectively. The fraction of neurons with abnormal morphology was lowest in the rhFGF18-treated animals, paralleling the motor-cognitive findings. AChE-positive fiber density and activity increased over time in the rhFGF18-treated group, remained unchanged for rhGDF11, and declined in the control. Metabolic activity markers of both glycolysis and oxidative phosphorylation increased most significantly in the rhGDF11-treated animals, with both rhFGF18 and rhGDF11 achieving improvements over PBS. Finally, rhFGF18 treatment exhibited a trend for reduced mortality relative to PBS with mortality rates of 5.6% (95% CI: 27.3%, 0.1%) and 22.2% (95% CI: 47.6%, 6.4%) respectively.

Conclusion: rhFGF18 appears promising in promoting recovery following cerebral ischemia-reperfusion injury.

Biography

Alex is the Chief Operating Officer of Remedium Bio, a Boston-area biotechnology company developing treatments for Osteoarthritis, Diabetes, and Stroke. Prior to Remedium, Alex held roles of increasing responsibilities at companies including Allergan, Biogen, and Regeneron. His efforts were instrumental in bringing to market several global blockbuster therapies for the treatment of Multiple Sclerosis, Spinal Muscular Atrophy, Atherosclerotic Cardiovascular Disease, Keratoconus, Rheumatoid Arthritis, and Atopic Dermatitis. Alex holds a Bachelor in Materials Engineering and a Master in Chemical Engineering from the University of Toronto, MBA and Master of Science in Finance from Indiana University, and a Master in Microbiology and Cell Sciences from the University of Florida.

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THE FRACTAL GEOMETRY OF ALZHEIMER'S DISEASE TOWARD BETTER COGNITIVE ASSESSMENT: CHALLENGES AND STEPS FORWARD

Tahmineh Azizi

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Abstract

Human brain is the most dynamic and varied system of the body. The brain is composed of neuron and glia. But how do they interact to generate emergent properties like memory, learning, emotion and sleep is little understood. Many such complex systems that exist in non-linear dynamics are characterized by the fractal nature. The fractal dimension (FD) is a quantitative parameter that has been extensively used to analyse the complexity of structural and functional patterns of the human brain. The fractal dimension (FD) of the human brain quantifies the inherent complexity. Evidences strongly suggest that fractal properties of a biologic system might be related to entropy and metabolism. In several pathologies of the brain such as Alzheimer's, Epilepsy and Stroke, fractal dimension (FD) is altered. FD in combination with other features is emerging as a powerful diagnostic approach at the hands of a clinician. Alzheimer disease (AD) is a progressive neurodegenerative disease that destroys memory and cognitive skills. Aging is the biggest risk factor for AD. The central quest of research on AD is to identify the steps in its pathogenesis that, if inhibited, would slow or prevent the disease. All AD patients develop neuritic plaques in brain areas subserving memory and cognition. These plaques consist of extracellular masses of *Aβ* filaments intimately associated with dystrophic dendrites and axons, activated microglia, and reactive astrocytes. In 1983, Benoit Mandelbrot, the founder of fractal geometry, presented the amazing world of fractals to the world. Fractals are infinitely complex objects which are self similar in different scales. In this study we are focused to understand the changes in fractal properties (FD) of human brain as a whole in glioma during the states of AD. A non-linear analysis called the Fractal Dimension (FD) has been performed to quantify the fractal complexity of AD. Our primary goal is to investigate FD to assess whether it can discriminate between different states of AD. From FD analysis, we noticed that the fractal dimension increases with aging the AD, i.e. the complexity and self similarity of brain structure increases. We perform multi-fractal analysis to discover whether AD and its states belong to class of multi-fractal object for which a large number of scaling exponents are required to characterize their scaling structures. We plot the multi-fractal spectra of the fMRI images to compare the width of the scaling exponent for each spectrum. According to our analysis, we have a wide range of exponents for AD fMRI images, which indicates different states of Alzheimer's disease have multi-fractal structure. As a result, fractal geometry can be considered as a computational framework to characterize different stages of AD and with further analysis, it can be used as a diagnostic tool to fight against Alzheimer's disease.

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THE EFFECT OF DONEPEZIL ON APHASIA POST-STROKE: A LITERATURE REVIEW

Salman Elgharbawy

Southern Illinois University, USA

Abstract

Introduction: Aphasia is a communication disorder that often results from stroke, affecting an individual's ability to understand and produce spoken and written language. It can significantly impair the quality of life and independence of stroke survivors. While speech therapy remains a cornerstone in aphasia rehabilitation, pharmacological interventions have also garnered attention in recent years. Donepezil, a cholinesterase inhibitor commonly used in the treatment of Alzheimer's disease, has shown promise in improving language functions in aphasic patients post-stroke. This literature review aims to provide an overview of the existing research on the effects of Donepezil on aphasia post-stroke and to assess its potential as an adjunctive therapy.

Methods: A comprehensive search of electronic databases, including PubMed, Google Scholar, and PsycINFO, was conducted to identify relevant studies published between 2000 and 2021. Keywords such as "Donepezil," "aphasia," "stroke," and "language impairment" were used to identify relevant articles. The inclusion criteria encompassed clinical trials, observational studies, and systematic reviews investigating the impact of Donepezil on aphasia following a stroke.

Results: 1. Positive Effects on Language Recovery: Several studies have reported positive outcomes regarding the use of Donepezil in improving language function in post-stroke aphasic patients. Donepezil's mechanism of action, which involves enhancing cholinergic neurotransmission, is believed to contribute to its potential benefits. These studies often highlight improvements in naming, fluency, and comprehension of speech.

2. Dose-Dependent Effects: Some research suggests that the dosage of Donepezil may influence its impact on aphasia recovery. Higher doses have been associated with more significant improvements in language function, but this has raised concerns about potential side effects and tolerability

3. Variability in Patient Response: While Donepezil has demonstrated efficacy in some individuals, there is considerable variability in patient response. Not all individuals with aphasia post-stroke experience substantial improvements with Donepezil therapy, suggesting the need for further investigation into factors that predict responsiveness.

4. Combination with Speech Therapy: Many studies emphasize the potential benefits of combining Donepezil with intensive speech therapy. This multimodal approach appears to yield more significant language gains than either intervention alone, highlighting the importance of comprehensive rehabilitation programs.

5. Long-Term Effects and Safety: Research on the long-term effects and safety of Donepezil in aphasia post-stroke is limited. Further investigation is necessary to determine whether its benefits are sustained over time and to assess any potential adverse effects.

Discussion: Donepezil, an acetylcholinesterase inhibitor, shows promise for improving language function in patients with post-stroke aphasia. Multiple studies found that donepezil significantly improved scores on the Western Aphasia Battery (WAB), a test of language ability, compared to placebo or no treatment. Specifically, donepezil improved spontaneous speech, comprehension, repetition and naming. An open-label study also found that donepezil stabilized or improved language deficits in chronic post-stroke aphasia. However, the effects seem to depend on the type of aphasia. Donepezil was found to be particularly effective for Wernicke's aphasia, an impairment in understanding speech, according to a case study. Brain imaging showed increased activity in language areas of the brain after donepezil treatment in a patient with Wernicke's aphasia. On the other hand, donepezil did not significantly improve language in patients with global aphasia, a severe impairment of both speaking and understanding speech. The benefits of donepezil also appear to extend beyond just language. Donepezil improved global function and cognition in patients with post-stroke aphasia. It reduced agitation and disorientation in one case study of a patient with traumatic brain injury and severe aphasia. While most studies found donepezil to be well tolerated, the side effects can include nausea, diarrhea, insomnia and muscle cramps. The dosage of donepezil used in studies of post-stroke aphasia ranged from 5 to 10 mg per day, which are typical doses for Alzheimer's disease. In summary, donepezil shows significant promise as a treatment for various types of post-stroke aphasia, especially Wernicke's aphasia. It can improve not only language ability but also global function and cognition. However, donepezil does not seem to benefit all types of aphasia, and it can cause side effects. Larger, controlled studies are still needed to confirm the benefits of donepezil for post-stroke aphasia and determine which patients may benefit the most from this treatment.

Conclusion: Donepezil appears to have the potential to improve language function in individuals with aphasia poststroke, but its use should be carefully considered in conjunction with other rehabilitation strategies. As research in this area continues to evolve, a more comprehensive understanding of the benefits, optimal dosing, and patient selection criteria for Donepezil in aphasia rehabilitation will be crucial for improving outcomes in stroke survivors with aphasia. Future studies should address these gaps in knowledge to provide better guidance for clinicians and patients seeking effective treatments for post-stroke aphasia

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NEUROPSYCHOLOGY OF ADDICTION: THE ROLE OF AGING IN DECLINING EXECUTIVE FUNCTIONING YOUNG ADULT WITH DRUG ADDICTION

Shameem Fatima

COMSATS University Islamabad, Pakistan

Abstract

Background: Drug addiction is a pervasive public health concern affecting many people around the world and is associated with diminished executive functioning. Literature also supports that EF such as cognitive flexibility and inhibition show a clear age-related decline in older adults. The study extends this focus by analyzing whether aging effects on neuropsychological functions feature earlier in durg addict patients.

Objective: To examine the distinct patterns of executive functions in individuals with substance addiction compared with those without substance addiction. A secondary hypothesis was to examine the effect of aging on executive functions in Young Adults with and without substance addiction.

Methods: Data were collected from 100 young adults with substance addiction (age range: 18 to 41, *M* = 28.30, *SD*= 5.16) and 110 young adults without substance addiction (age range: 30 to 44, *M* = 37.35, *SD*= 5.15). They were assessed on performance measures of selective Executive functions namely Design Fluency Test and the Color Word Interference Test taken from the Delis–Kaplan Executive Functions System. Data were analyzed Regression Analysis approach to moderation in SPSS.

Results: Results from independent sample t test showed that young individuals with substance addition presented poor executive functioning on all measures compared to those without substance addiction. Moreover, it was found that increasing age was negatively correlated with weak executive functions only in individuals with substance addiction but not in control group.

Conclusion: The drug addiction undesirably affects executive cognitive functions and the effects of aging on neuropsychological functioning are featured earlier in individuals with drug addiction.

Biography

Shameem Fatima has received her PhD Degree from the University of Punjab in the field of Applied Psychology in 2012. She is a Tenured Associate Professor of Psychology and is serving as a Chairperson, Department of Humanities at COMSATS University Islamabad. She has obtained many awards including but not limited to the Punjab University Talent Award in 2000, the 5th and 7th HEC Outstanding Research Awards, the CUI Lahore Best Researcher Award in 2017, COMSATS Research Productivity Awards in 2016 and 2017. Moreover, she achieved a distinct Position in Bachelor Studies in Punjab University (Among Top Ten), awarded with HEC Scholarship for PhD studies (for 5 years), and talent Scholarship Holder from Primary till Master's Degree. She has several publications in well reputed and top ranked international and national journals. Apart from this, she has a book published with international renowned publisher, Springer Nature, on her credit in addition to several book chapters. She is a member external board of many public and private sector universities in Pakistan

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GENOME BASED THERAPEUTICS: ERA OF PRECISION MEDICINE IN GENETIC EPILEPSIES AND EPILEPTIC ENCEPHALOPATHIES

Smilu Mohanlal, Aarthi Balaji, Divya Pachat, Tushar VP and Sachin Suresh Babu

Aster Malabar Institute of Medical sciences, India

Abstract

Introduction: The recent evolution of genomics has led to the development of targeted therapeutics, revolutionizing medical approaches. This study aimed to assess the impact of genetic testing on the current epilepsy management paradigm with a specific focus on the variability of outcomes subsequent to genetic diagnoses.

Methodology: Data were collected retrospectively from a cohort of children aged 1-18 years, diagnosed with refractory epilepsy of confirmed genetic origin. The participants received care at a quaternary care center's pediatric neurology clinic from August 2019 to June 2021. The collected information included demographic characteristics, seizure types, EEG findings, imaging abnormalities, genetic diagnoses, attempted treatments, and seizure outcomes.

Results: Among the 210 children with confirmed genetic diagnoses, 74 were included in the study. The gender distribution comprised 45 males and 29 females. Within the cohort, 68 / 74 exhibited single gene variations, with 23 cases associated with sodium/potassium/calcium channelopathies. Precision medicine could be applied to 25 / 74 cases. 17 / 74 children (22.97%) experienced a reduction of up to 50% in seizure frequency due to precision medicine implementation.

Conclusion: While our study indicates the significance of genetic insights in adapting treatment approaches for pediatric epilepsy, it is important to temper our conclusions. The retrospective nature of our study confines our ability to definitively gauge the extent of precision medicine's utility. Our findings suggest the potential of genetic information to enhance epilepsy management, but the true impact of precision medicine can only be established through prospective investigations.

Biography

Smilu Mohanlal is a pediatric neurologist working at Aster MIMS , Kozhikode, Kerala, India with keen interest in pediatric epilepsies and neuromuscular disorders. She has about 6 years of experience in this field and has taken immense interest in the field of precision medicine for treating genetic epilepsies and epileptic encephalopathies.Bringing the concept of precision medicine to a developing country in a private medical set up was challenging , though the above work was retrospective , a prospective study in the under 5 age group is being conducted by the team lead by her .

Virtual Poster Presentation

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CLINICAL AND GENETIC CHARACTERISTICS OF PATIENTS WITH ISCHEMIC STROKE, A PROSPECTIVE STUDY OF THE RISKS OF RECURRENT STROKES, MACHINE LEARNING

Anastasia S Gunchenko, Anastasia V Anisimova, Sergey S Galkin and Igor V Vorobiev

Pirogov Russian National Research Medical University, Russian Federation

Abstract

Background: The high frequency of recurrent ischemic strokes determines the relevance of the search for additional clinical and genetic risk factors.

Objective: To study the relationship between different age groups of patients with ischemic stroke, the severity of the patient's condition according to the NIHSS scale, the presence of significant cerebral artery stenosis, spontaneous aggregation data on adrenaline, ristomycin, arachidonic acid, their effect on the prognosis of a recurrent ischemic stroke episode. Process data using Roc analysis, correlation matrix, machine learning for the reliability of the result.

Methods: Clinical and genetic research, blood rheology, machine learning.

Results: We studied 461 cases. Patients with primary ischemic stroke are included. The studied SNPs in the genes ITGB3, GPIba, TBXA2R, ITGA2, PLA2G7, HMOX1, PTGS1, PTGS2, ADRA2A, ABCB1, PEAR1 and the intergenic region 9p21.3 were identified using low-density biochips. ROC analysis was used, a curve and a correlation matrix were constructed. The dependence of BMI, severity of the condition on the NIHSS scale, age over 55 years and the SS rs4523 TBXA2R allele on the prognosis of recurrent stroke was revealed. To investigate the contribution of clinical and genetic features in recurrent stroke, we created ML models. The overall best performance was achieved after using the CatBoost algorithm. The optimal parameters of the model were selected using the grid search technique with cross-validation. The best performance of the model was achieved with the following set of patient features: 'Age', 'BMI', 'HDL', 'LDL', 'NIHSS', 'DOS', 'AA', 'PTGS1 rs1330344'.

The average values of classification metrics in five-fold cross-validation were as follows: F1_score: 0.8107 ± 0.0250, Precision: 0.8010 ± 0.0812, Recall: 0.8545 ± 0.0674.

Conclusion: We made an attempt to calculate the median dependence of the patient's age, everity of the condition with the association of genetic markers and obtained reliable results on this sample. The research has been conducted at the Pirogov Russian National Research Medical University at the clinical base of the Pirogov State Clinical Hospital in Moscow together with the Engelhardt Institute of Molecular Biology for more than 10 years. During this time, dissertations have been defended, more than 20 scientific articles have been published on the topic of clinical and genetic analysis, the creation of biochips for the analysis of patients with ischemic stroke, the study of rheological properties of blood and the search for relationships with various alleles of genes, in order to identify predictors of the risk of recurrent stroke.

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BLOOD HYPERVISCOSITY SYNDROME THROUGH ESSENTIAL POLYCYTHEMIA - CAUSE OF ISCHEMIC STROKE

Andrei-Lucian Zaharia[1], Diana Oprea[1], Ana Croitoru[1], Stan Bianca[1], Eva-Maria Elkan[1], Cristina-Nina Magnani[2], Ioana Grecu[1] and Mihaela Lungu[1]

[1]Dunarea de Jos University of Galati, Romania

[2]Bicaz Medical Center, Romania

Abstract

Background: Blood viscosity is often overlooked in medical practice, hyperviscosity being responsible for the occurrence of a multitude of neurological, cardiologic, hematologic, nutritional and metabolic diseases. From a neurological point of view, the increase of blood viscosity can trigger a transient ischemic attack or a stroke, by compromising the cerebral oxygen supply.

Methods: We present the case of a 70-year-old female patient, admitted to our clinic for a recurrent acute ischemic stroke with left hemiparesis. Relevant family history: a son with chronic lymphatic leukemia, with a favorable evolution under treatment. Paraclinically, polycythemia rubravera(PV) is diagnosed based on positive JAK2 mutation, the medulogram and peripheral blood smear confirming it. Further investigations regarding other cardiovascular risk factors were negative. The evolution was favorable underspecific therapy and close monitoring.

Results: PV, a myeloproliferative syndrome with negative Philadelphia chromosome, is a cause of high blood viscosity influencing the volume of cellular components. The bone marrow exam shows hypercellularity in all lines, with the proliferation of megakaryocytes, together with an increased number of normocytic normochromic erythrocytes, an increased hematocrit. JAK2 mutation may also be present. The ischemic stroke is cited as the first manifestation of PV in up to 15% - 20% of cases, earlier diagnosis impacting positively patients' management and clinical outcomes.

Conclusion: PV can constitute a rare cause of ischemic stroke- sometimes recurrent or transient ischemic attack and must be considered as possible etiology in patients with blood hyperviscosity if other risk factors are excluded.

Biography

My name is Zaharia Andrei-Lucian, I am a graduate of the Faculty of Medicine and Pharmacy of the Lower Danube University in Galati, Romania. I am currently in training as a future neurologist in Galati Emergency County Clinical Hospital. I am a PhD student, the topic chosen is the usefulness of biomarkers in stroke. I have published works at national and international conferences, as well as articles published in ISI and BDI indexed journals. I am a tenured university assistant in the Clinical Medical department of the Faculty of Medicine, I teach courses in the discipline of Neurology, both in Galaţi and in its extension from Enna, Sicily. As fields of interest, I am concerned with acute cerebrovascular pathology, demyelinating diseases and movement disorders.

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POST-STROKE EPILEPTIC SEIZURES

Ilxomova SX

Tashkent Medical Academy, Uzbekistan

Abstract

Background: It is known that, in the debut of acute brain disorders blood circulation in 20-25% of observations could occure epileptic seizures. Most often they accompany subarachnoid hemorrhage (19.5% of cases), less often - hemorrhagic (8.7%) and ischemic (4.1%) Strokes. However, the specificity of changes in cells peripheral blood of patients with acute cerebrovascular pathology, combined with epileptic seizures, has not been studied to date.

Objective: To examine clinical condition of epilepsy after stroke.

Methods: The examination was carried out in 75 patients post-stroke epilepsy. 59 of them are men and 16 are women. The average age was 48 ± 3 years. Out of the total number, 69 patients subarochnoid hemorrhage, 6 patients experienced ischemic stroke.

Results: In the 75 patients monitored did not previously have epileptic attacks before. In all patients, an epileptic attack was observed on the first day after the stroke and anticonvulsant treatment was given. EEG monitoring found high rhythms in 23 out of 75 patients (30,66%), in 12 patients (16%) experienced epileptic seizure however it was not founded high rythms in EEG. During the observation,25st day of observation 11 out of 23 patients were found to have reduced attacks, and the amount of anticonvulsant treatment was reduced. In 12 patients, acute rhythms remained in EEG, and the anticonvulsant treatment stayed unchanged. In 46 of our patients, EEG sharp delta waves increased correlation was $r=0.62$ $p<0.05$, and in 7 patients, EEG symptoms remained almost unchanged correlation was $r=0.22$ $p<0.05$

Conclusion: Based on the examination, we should conclude that most of our patients, epileptic attacks after stroke decreased by anticonvulsant treatment, and less part of patients had epileptic attacks unchanged. This result included 6 month observation.

Biography

As a young neurologist, Dr.Sayxa Ilxomova is known for her patience, dedication, and attention to detail for each individual patient case. She currently serves on the neurology. One of her many hobbies is search unknown methods and skills as well as to apply new medical technics to collegues around. She hopes to continue to use her medical skills in order to further the field of neurology, helping to improve patient outcomes and encourage the next generation of physicians.

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A RARE PRESENTATION OF WOUND BOTULISM NEUROTOXICITY, A CASE REPORT

Mai Elrayes and Christopher Kobylecki

Northern Care Alliance NHS Foundation Trust, UK

Abstract

Background: Wound botulism is a very rare fatal neuroparalytic condition. Its first symptoms can be unusual and frequently confused with those of other illnesses. Therefore, a comprehensive history and clinical evaluation are essential.

Case Presentation: We present a 41-year-old man who had rapidly progressive cranial nerve and limb muscle weakness. Examination revealed bilateral ptosis and ophthalmoplegia, followed by bulbar and later proximal upper limb weakness. He was admitted to the ICU following intubation and mechanical ventilation for respiratory failure. He had recently suffered an open left humeral fracture that required amputation. The initial differential diagnosis included myasthenia gravis, Miller Fisher syndrome and botulism, although at the time of original assessment we did not identify any clear wound infection that would have caused the latter. Neurophysiology examination did not show clear features of myasthenia nor neuropathy. Review of his notes from other hospitals identified that a swab from the wound had grown Pseudomonas sp. and Clostridium perfringens, raising the diagnostic suspicion of wound botulism as a cause for his clinical presentation. He eventually tested positive for Botulinum Type A toxin, but by then he was outside the therapeutic window for antitoxin treatment. He received ongoing supportive care as well as treatment for concurrent infections and nosocomial infections. He thereafter underwent good neurological recovery and was weaned off ventilatory support.

Conclusion: A patient with descending paralysis and neuromuscular weakness was diagnosed with wound botulism, but diagnosis was delayed due to its rarity and complex presentation. Wound botulism should be considered in differential diagnosis of acute neuromuscular weakness, especially with recent fractures or infections. The case illustrates the importance of good supportive care, including critical care input, for such patients even when antitoxin treatment is not possible.

Biography

Mai Elrayes has her expertise in Neurology for 10 years in the UK and the Middle East. She received her neurology training in Egypt and obtained a master's degree in Neurology. Then worked in the largest neurology center in Muscat, Oman for 3 years in general neurology, Multiple sclerosis and neuromuscular subspecialities. She is currently working at Manchester center for clinical neuroscience in the United Kingdom, one of the largest neurology centers in Europe. She had previous participations in research in subarachnoid hemorrhage and CIDP. And currently presenting a case report for a rare neuromuscular condition.

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EBV EVADES IMMUNE SURVEILLANCE IN THE MULTIPLE SCLEROSIS BRAIN THROUGH THE PD- 1/PD-L1 AXIS

Barbara Serafini, Lucia Benincasa, Barbara Rosicarelli and Francesca Aloisi

Istituto Superiore di Sanità, Italy

Abstract

Background: Multiple sclerosis (MS) is the most common chronic inflammatory and neurodegenerative disease of the central nervous system (CNS). The disease is caused by the interplay between genetic and environmental factors. Epstein-Barr virus (EBV) infection shows a strong causative association with MS, but the underlying pathogenic mechanisms remain under scrutiny. Our studies in postmortem brain tissue from donors with progressive MS revealed the presence of both virus-infected B-cells and EBV-specific cytotoxic T-cells in the CNS inflammatory infiltrates. These findings suggest that a persistent intracerebral EBV infection might trigger an antiviral cytotoxic response that causes tissue damage but fails to eradicate the virus, possibly due to virus-induced immune evasion mechanisms. One of these consists in the induction of the inhibitory immune checkpoint protein programmed cell death ligand-1 (PD-L1) in the infected B-cells.

Objective: The aim of this study was to verify whether PD-L1 is expressed by EBV-infected B- cells and interacts with its receptor PD-1 on T-cells in the MS brain, hinting to a role for the PD- 1/PD-L1 inhibitory pathway in dampening the immune response locally.

Methods: We used immunohistochemistry to analyze the expression of PD-1 and PD-L1 in postmortem control brains and MS brains that contained B-cell-enriched perivascular infiltrates and intrameningeal B-cell follicles, the major intracerebral EBV reservoir. *In situ* pentamer binding was used to identify EBV-specific T-cells in MS brain sections.

Results: We show that: i) both PD-1+ cells and PD-L1+ cells are present in the immune infiltrates in the MS brain; ii) PD-L1 is expressed on the majority of EBV-infected B-cells and PD-1 is expressed on CD8+ T-cells, including EBV-specific CD8+ T-cells; iii) PD-L1+ and EBV-infected cells are in close contact with PD-1+ T-cells.

Conclusion: EBV could use the PD-1/PD-L1 axis to establish a persistent infection in the MS brain that stimulates an inefficient, highly detrimental antiviral immune response.

Biography

Lucia Benincasa, earned her Master degree and PhD at University "Sapienza" of Rome, Italy. She carries out her research and training of young scientists at the Istituto Superiore di Sanità in Rome in the fields of neuroimmunology and neuropathology of multiple sclerosis, studying the causes and immunopathogenetic mechanisms involved in the onset and progression of the disease. Studies over the past 20 years have focused on the viral etiopathogenesis of multiple sclerosis and the role of the humoral and cellular immune response in the inflammatory and neurodegenerative processes. The work has been part of multiple projects funded by the EU, the Ministry of Health, the Italian Multiple Sclerosis Association through its FISM Foundation, among others. She is the author of 58 publications in peer-reviewed journals and two book chapters.

Accepted Abstracts

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RISK FACTORS FOR THE DEVELOPMENT OF ISCHEMIC STROKES AFTER A CARONOVIRUS INFECTION.

Madjidova YN, Narkulov BB and Azimova NM

Tashkent Pediatric Medical Institute, Uzbekistan

Abstract

The purpose of the study: Was the study of clinical and neurological features of ischemic stroke (IS) after a caronovirus infection.

Materials and methods of research: We examined 34 patients with IS who had a history of caronovirus infection, confirmed by the presence of positive tests and antibodies for COVID-19.

Research Results: Atherosclerosis was observed in more than half of the patients (59%). About a third of patients with IS had coronary heart disease and diabetes mellitus (32% and 26%, respectively). The severity of the clinical picture of COVID-19 determines the likelihood and severity of ischemic stroke. An analysis of the history data regarding the incidence of ischemic strokes after suffering COVID-19 revealed differences in terms of the timing of the development of an acute cerebrovascular accident. The duration of AI development ranged from 1 to 6 months. Low frequency of strokes in the first month after COVID-19, possibly due to ongoing therapeutic measures, which had a certain preventive effect An important factor in the development of stroke after COVID-19 are concomitant comorbid conditions. affecting the rheological properties of blood, etc. However, by the end of the second month, the number of patients receiving medical therapy was reduced to 20%, which may be the reason for their stroke. An important factor in the development of stroke after COVID-19 are concomitant comorbid conditions. affecting the rheological properties of blood, etc. However, by the end of the second month, the number of patients receiving medical therapy was reduced to 20%, which may be the reason for their stroke. An important factor in the development of stroke after COVID-19 are concomitant comorbid conditions.

Conclusion: thus, our studies have shown that most often (59%) IS develops 2-3 months after suffering COVID-19 with a burdened somatic status. The smallest percentage (12%) of the incidence occurs 1 month after COVID-19, which indicates the need for primary stroke prevention measures aimed at changing blood rheological parameters, which also undergo certain changes in patients who have undergone COVID-19.

Biography

Madjidova.Y.N -Doctor of Medical Sciences, Professor Yakutkhon Nabievna Majidova, Chief Neurologist of the Republic, Head of the Department of Neurology, Child Neurology and Medical Genetics of Tashkent pediatric medical Institute, Corresponding Member of the Euro-Asian Academy of Medical Sciences, Chairman of the Antiepileptic

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MICROCURRENT REFLEXOTHERAPY AND ITS EFFECT ON VISUAL AND HEARING-SPEECH MEMORY, ATTENTION AND EMOTIONAL SPHERE IN CHILDREN WITH AUTISM SPECTRUM DISORDERS

Madjidova YN and Khusenova NT

Tashkent Pediatric Medical Institute, Uzbekistan

Abstract

The purpose of research: to study the effectiveness of microcurrent reflexotherapy and its effect on visual and hearing-speech memory, attention and emotional sphere in children with autism spectrum disorders.

Materials and methods of research: the research is based on data from a survey of 120 children with autism. To analyze the results of the study on the effectiveness of the method of microcurrent reflexotherapy, we divided children with autism into two groups.

The main group consisted of 60 children with autism who received microcurrent reflexotherapy sessions in complex pharmacological treatment and ABA therapy.

Microcurrent reflexotherapy was carried out using the device "MERT", which is approved for use in the countries of the European Union (registration number MED 31494_1). The complete course of treatment is 3 weeks - 15 treatment procedures. The treatment is carried out daily, the duration of the treatment procedure ranges from 30 minutes to 40 minutes.

Results of the research: When prescribing microcurrent reflexotherapy in complex treatment, children of the main group showed an increase in productive attention by 2 times, while in the comparison group it was 1.5 times ($P<0.05$). In the emotional sphere, there was also a significant levelling of indicators in children with ASD in the main group in relation to the data before and after treatment, as well as to the indicators of children from the main group ($P<0.05$). The amount of operative memory in the visual modality increased by 1.93 times; in hearing- speech modality – by 1.76 times. Voluntary attention became more stable, and the number of errors decreased by 1.28 times. In children who received treatment according to the standard method, positive dynamics of a pronounced degree were noted only in 8%, the dynamics of cognitive activity of a moderate degree in 28% of children, in 36% - of a weak degree, in 28% of cases there was no dynamics, i.e. no dynamics and weak dynamics in 64% of cases; only 36% of children have moderate and pronounced dynamics.

Conclusion: In children with ASD, who received microcurrent reflexotherapy in the complex treatment, speech skills, attention productivity, visual modality increased, anxiety, aggression and depressive reactions decreased, as well as the acquisition of communication skills increased by 45.3% on average.

Biography

Madjidova.Y.N -Doctor of Medical Sciences, Professor Yakutkhon Nabievna Majidova, Chief Neurologist of the Republic, Head of the Department of Neurology, Child Neurology and Medical Genetics of Tashkent pediatric medical Institute, Corresponding Member of the Euro- Asian Academy of Medical Sciences, Chairman of the Antiepileptic League of Uzbekistan, First Deputy Chairman of the Association of Neurologists of Uzbekistan.

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INDICATORS OF THE PSYCHO-EMOTIONAL SPHERE IN PATIENTS WITH CHRONIC CEREBRAL ISCHEMIA

Madjidova Ya N, Nizamkhojaeva Sh and Azimova NM

Tashkent Pediatric Medical Institute, Uzbekistan

Abstract

The Purpose of the Study: Was an assessment of the cognitive and psycho- emotional sphere in patients with chronic cerebral ischemia.

Materials and methods of research: The study included 40 patients with CCI stage 1-2 aged 50 to 65 years, with a predominance of men over women (22 (55%) versus 18 (45%)). Clinical symptoms in 13 (32.5%) patients corresponded to stage 1 CCI, in 27 (67.5%) patients - stage 2 CCI with mild and moderate cognitive impairment (classification according to DSM5). The state of the cognitive sphere was studied using the Mini Mental State Examination (MMSE), a short test for assessing the mental sphere, which allows to quantify the overall cognitive deficit. To assess the severity of psycho-emotional disorders, the Beck Anxiety Scale (BTS) and the Hamilton Depression Scale (HDD) were used.

Research results: In the process of observation in patients with stage 1 CCI, the total MMSE score was 27.8 ± 0.41 points, while in the group of patients with stage 2 CCI it was 23.6 ± 0.09 points. At the time of inclusion in the study, all patients had disorders in the emotional sphere. The study of the psycho-emotional state using clinical scales of depression showed that depressive syndrome is typical in the group of patients with CCI: the average score of anxiety disorders according to the Beck Anxiety Scale in the group of patients with stage 2 CCI was 9.2 ± 2.1, which corresponds to Beck slight anxiety, while in the group with stage 1 CCI - 7.1 ± 1.4 points. The results according to the Hamilton Depression Scale (HDS) averaged 13.3 ± 2.1 points in the group with stage 2 CCI, which corresponds to mild depression, while in the group of patients with stage 1 CCI it was -9.3 ± 2.1 points.

Conclusions: With CCI, an increase in neurological symptoms is combined with a deepening of cognitive and depressive disorders. The formation of cognitive and depressive disorders correlates with a more extensive focal brain lesion and more pronounced vascular disorders.

Biography

Madjidova.Y.N -Doctor of Medical Sciences, Professor Yakutkhon Nabievna Majidova, Chief Neurologist of the Republic, Head of the Department of Neurology, Child Neurology and Medical Genetics of Tashkent pediatric medical Institute, Corresponding Member of the Euro-Asian Academy of Medical Sciences, Chairman of the Antiepileptic League of Uzbekistan, First Deputy Chairman of the Association of Neurologists of Uzbekistan.

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CLINICAL AND NEUROLOGICAL CHARACTERISTICS OF AUTISM SPECTRUM DISORDERS IN CHILDREN

Madjidova YN, Ibrahimov Sh and Azimova NM

Tashkent Pediatric Medical Institute, Uzbekistan

Abstract

The aim of the study was to study the clinical and neurological manifestations of childhood autism.

The materials and methods of the study included a clinical and neurological examination with a detailed history taking. A survey was conducted of 50 children with autism spectrum disorders (ASD) aged 4 to 6 years. All children were registered with a diagnosis of "F84.0 Childhood autism". The average age of children was 4.3 years.

According to the collected anamnesis, the onset of the disease began gradually with a decrease in activity in 32 children (64%) and the extinction of the reaction to relatives in 42 children (84%), creativity in games disappeared, children ceased to be interested in others.

When analyzing data on speech disorders in 4-6-year-old children, 24 children (48%) had echolalia, a peculiar intonation of speech, and the absence of the pronoun "I" in the lexicon. Violation of the grammatical structure of speech and the absence of phrasal speech were noted in 15 children (30%), in 11 children (37%) there was a violation of sound pronunciation and the absence of words. All children with ASD were characterized by babbling to themselves.

It should be noted that 16 children with ASD (53%) were characterized by a lack of neatness skills.

In 36 children (72%), there was a decrease or absence of visual reactions, insufficient or increased sensitivity to auditory stimuli or ignoring them, a reduced reaction to taste or increased sensitivity to smells, taste stimuli or touch somewhat more often in this age period, sometimes hyperactivity was replaced by seizures laziness and slowness.

When assessing the neurological status, some features were identified in 18 (36%) of children had altered muscle tone, more often in the form of diffuse muscle hypotension. Half of the children showed a change in tendon reflexes: A neurological examination revealed anisoreflexia in half of the observed children-25 (50%). In the study of the cranial nerves, microsymptomatics were determined in the form of a slight violation of convergence, horizontal positioning nystagmus in the extreme leads, not pronounced strabismus, mild facial asymmetry when assessing the facial nerve, and deviation of the tongue in 36% of children.

Conclusion: childhood autism is characterized by diffuse microorganic symptoms and behavioral disorders.

Biography

Madjidova.Y.N -Doctor of Medical Sciences, Professor Yakutkhon Nabievna Majidova, Chief Neurologist of the Republic, Head of the Department of Neurology, Child Neurology and Medical Genetics of Tashkent pediatric medical Institute, Corresponding Member of the Euro- Asian Academy of Medical Sciences, Chairman of the Antiepileptic League of Uzbekistan, First Deputy Chairman of the Association of Neurologists of Uzbekistan.

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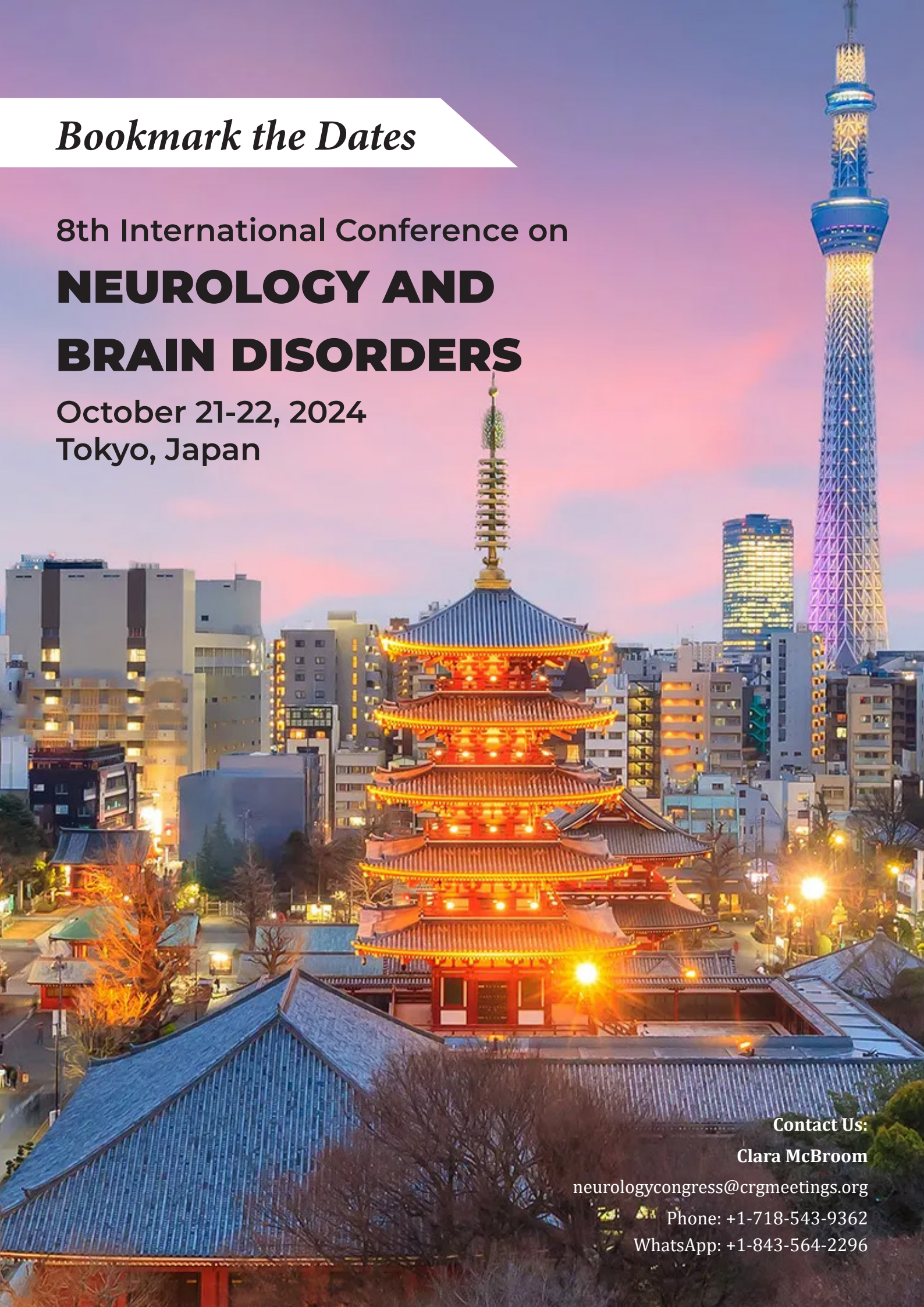

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