

WEBINAR

Speakers

VASCULAR
DEMENTIA
CONGRESS

2021

17th World Congress on**Vascular Dementia and Neurodegenerative Diseases****The Purpose of Temperature of Fever in Covid -19****K. M. Yacob (Chief Physician)***Marma Health Centre, Kochi, Kerala, India***Key Words:** Blood circulation, Surplus temperature, Protective covering, energy

When the disease made by virus becomes a threat to life or organs blood circulation decreases, Temperature of fever will emerge to increase prevailing blood circulation. And it acts as a protective covering of the body to sustain life.

When blood flow decreases to the brain, the patient becomes fainted-delirious. If we try to decrease the temperature of fever, the blood circulation will further be reduced. Blood circulation never increases without temperature increase. Delirious can never be cured without an increase in blood circulation.

The temperature of fever is not a surplus temperature or it is not to be eliminated from the body. During fever, our body temperature increases like a brooding hen's increased body temperature.

The actual treatment to fever is to increase blood circulation. Two ways to increase blood circulation. **1.** Never allow body temperature to lose **2.** Apply heat from outside to the body. When the temperature produced by the body due to fever and heat which we applied on the body combines together, the blood circulation increases.

Then the body will stop to produce heat to increase blood circulation. And the body will get extra heat from outside without any usage of energy.

How can we prove that the temperature of fever in Covid -19 is to increase blood circulation?

If we ask any type of question-related to fever by assuming that the temperature of fever is to increase blood circulation we will get a clear answer. If avoid or evade from this definition we will never get a proper answer to even a single question.

If we do any type of treatment by assuming that the temperature of fever is to increase blood circulation, the body will accept, at the same time body will resist whatever treatment to decrease blood circulation.

If we measure the heat energy used for which activities in fever, we will know the purpose of the temperature of fever.

No further evidence is required to prove the temperature of fever in Covid -19 is to increase blood circulation.

yacobkm@gmail.com



17th World Congress on

Vascular Dementia and Neurodegenerative Diseases

Stroke rehabilitation of patients with upper limb lesion

Anatoly Belyaev, PhD^{1,2}, Tatyana Kantur, PhD³

¹*Pacific State Medical University, Vladivostok, Russia*

²*Primorsky institute of the vertebro-neurology and manual medicine, Vladivostok, Russia*

³*Far Eastern Federal University Medical Center, Vladivostok, Russian Federation*

Acute cerebrovascular accident remains one of the most frequent causes of disability and mortality in the population.

Objective: Study of the effectiveness of complex rehabilitation using the method of functional electrostimulation.

Method: 35 patients, aged 27 to 82 years, who had a stroke with consequences in the form of central hemiparesis.

Changes were assessed by indicators of muscle strength, range of motion in joints, endurance of muscle groups, modified Ashforth scale, Test Frenchay Arm and. International Classification of Functioning (ICF). All patients were divided into 2 groups by single blind randomization. The first group - 25 patients, received a standard complex: physical therapy, mirror-therapy, mechanotherapy on the simulator Thera-Vital. The second group - 10 patients, received a standard complex and functional electrostimulation (FES).

Results: Patients noted a significant decrease in muscle tone by 15 %, an increase in active movements by 47 %, an increase in muscle strength and endurance by 1,7 times, and an improvement in the functions of capturing items necessary in everyday life, as well as the functions of eating, drinking and caring for themselves. When comparing the two groups, a greater efficiency of rehabilitation was revealed in the second group with the FES method by 18% than in the first group with the standard methods.

Conclusions: Effectiveness of the use of FES in the rehabilitation of post-stroke patients has been proven and the method of its application, the protocol for assessing the severity of impairments to motor and functional activity using ICF has been described.

Biography

¹Anatoly Belyaev, chief specialist in osteopathy and medical rehabilitation of the Russian Ministry of Health for the Far East, professor of institute of clinical neurology and rehabilitation medicine "Pacific state medical university", director of Institute of Vertebro-neurology and Manual Medicine, M.D., Ph.D., professor, honored doctor of the Russia. He has published more than 40 papers in reputed journals and has been serving as an editorial board member of repute.

²Tatyana Kantur, chief of rehabilitation medicine division FEFU, Ph.D. He has published more than 60 papers in reputed journals and has been serving as an editorial board member of repute.



17th World Congress on

Vascular Dementia and Neurodegenerative Diseases

A Series of Recommendations to Develop Rotenone-induced Rat Model of Parkinson's Disease with Zero Mortality Rate

Arman Rahimmi

Department of Molecular Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran

Rationale: Parkinson's disease (PD) is one of the most prevalent CNS diseases related to aging. Developing accurate and a reliable animal model of PD is a very important step that researchers of this field must usually deal with it.

Objective: This study was designed to develop a reliable and accurate model of PD in rat.

Methods: Male Wistar rats were randomly divided into experimental groups (n=8). A series of experiments were designed, each one evaluating the effects of following factors separately: Injection procedure, rotenone dose, rotenone vehicle, housing condition, and supporting feeble animals. Development of the model was confirmed by behavioral tests and immunohistochemistry analysis on rats' brains. ROC curve analysis was performed for the tests separately and cumulatively to achieve a high predictive value.

Results: The animals, which received subcutaneous injections, gradual-increasing dose of rotenone, sunflower oil (as rotenone vehicle), standard controlled condition, and support had a higher survival rate, compared to their counterpart groups. these factors cumulatively increased the survival rate to 100%, while the PD model was developed in all the animals within the group. Additionally, a cumulative score based on the three behavioral tests was achieved, which could predict the development of PD model with 90% specificity and sensitivity.

Conclusions: For the first time, this study presented a reliable accurate rat model of PD with zero mortality rate. In addition, a standardized pattern was achieved based on combining the results of behavioral tests, which could predict the development of PD model with a relatively high accuracy.

Keywords: Parkinson's disease, animal models, rotenone, behavioral tests, rat

a.rahimmi@yahoo.com

17th World Congress on**Vascular Dementia and Neurodegenerative Diseases****miR-185 and SEPT5 Genes May Contribute to Parkinson's Disease Pathophysiology****Arman Rahimmi***Department of Molecular Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran*

There are still unknown mechanisms involved in the development of Parkinson's disease (PD), which elucidating them can assist in developing efficient therapies. Recently, studies showed that genes located on the human chromosomal location 22q11.2 might be involved in the development of PD. Therefore, the present study was designed to evaluate the role of two genes located on the chromosomal location (miR-185 and SEPT5), which were the most probable candidates based on our bibliography. In vivo and in vitro models of PD were developed using male Wistar rats and SHSY-5Y cell line, respectively. The expression levels of miR-185, SEPT5, LRRK2, and PARK2 genes were measured at a mRNA level in dopaminergic areas of rats' brains and SHSY-5Y cells using the SYBR Green Real-Time PCR Method. Additionally, the effect of inhibition on the genes or their products on cell viability and gene expression pattern in SHSY-5Y cells was investigated. The level of miR-185 gene expression was significantly decreased in the substantia nigra (SN) and striatum (ST) of the rotenone-treated group (control group) compared to the healthy normal group ($P < 0.05$). In addition, there was a significant difference in the expression of SEPT5 gene ($P < 0.05$) in the substantia nigra between two studied groups. The results of an in vitro study showed no significant change in the expression of the genes; however, the inhibition on miR-185 gene expression led to the increase in LRRK2 gene expression in SHSY-5Y cells. The inhibition on LRRK2 protein also decreased the cellular toxicity effect of rotenone on SHSY-5Y cells. The results suggested the protective role of miR-185 gene in preventing the development of PD.

Keywords: Parkinson's disease, MiRNA-185, SEPT5, Rotenone, Animal model*a.rahimmi@yahoo.com*

17th World Congress on**Vascular Dementia and Neurodegenerative Diseases****Bacterial FliC and DING proteins in Alzheimer's disease and Mild Cognitive Impairment and correlation with neurodegeneration and inflammation markers****Andreadou E.^{1,4*}, Katsipis G.^{1,4}, Tsolaki M.^{2,3,4}, Pantazaki A.^{1,3,4*}**¹Laboratory of Biochemistry, Department of Chemistry, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece,²First Neurology Department, "AHEPA" University General Hospital of Thessaloniki, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece,³Greek Association of Alzheimer's Disease and Related Disorders – GAADR⁴Center for Interdisciplinary Research and Innovation, Laboratory of Neurodegenerative Diseases (LND), AUTH

The pathology of Alzheimer's disease (AD) and Mild Cognitive Impairment (MCI) has been linked to inflammation due to microbiome, mainly originating from the oral cavity and intestine. The goal of this research was to estimate the levels of the bacterial proteins, FliC and DING, in cerebrospinal fluid (CSF) and their correlation with neurodegeneration and inflammation markers. FliC is the main structural component of flagella that many bacteria develop serving their motility and then flagellar shedding follows after entry into host. Multidrug-resistant strains of *Pseudomonas aeruginosa* from critically ill patients can form unusual outer-surface appendages harboring DING proteins, which have been related with many human diseases. FliC and DING levels were evaluated in CSF of 54 AD and 47 MCI patients compared to 23 cognitive healthy individuals, using indirect ELISA. Additionally, the inflammatory biomarkers COX-1 and COX-2, and the AD hallmarks, A β 42 and tau, were measured as well. FliC and DING proteins were found increased in CSF of AD patients compared to the control group, while FliC levels of MCI patients were also elevated in comparison with the cognitive healthy individuals. FliC and DING levels in CSF positively correlate with each other. Multi-linear regression analysis proves that DING is a significant determinant of FliC levels in CSF and vice-versa. FliC and DING proteins also correlate positively with A β 42, tau, COX-1 and COX-2 in CSF. Multi-linear regression analysis proves that COX-2 is a crucial determinant of both FliC and DING levels and COX-1 is a crucial determinant of DING levels in CSF.

Biography

Dr Andreadou Eleni obtained a PhD in Biochemistry at the Biochemistry Laboratory of Chemical Department of Aristotle University of Thessaloniki. She is quite experienced on various research topics including Alzheimer's disease. She has participated in 5 research programs and she has 11 publications in international journals and 13 participations in conferences. Nowadays she is a postdoctoral researcher in Biochemistry Lab of Chemical Department of AUTH in a research funded by the E Δ BM103 Program (MIS 5047901) co-financed by the European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Human Resources Development, Education and Lifelong Learning 2014-2020".

Funding: This research entitled "Investigation study on the contribution of inflammatory bacterial components to Alzheimer's disease" was funded by the E Δ BM103 Program (MIS 5047901) co-financed by the European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Human Resources Development, Education and Lifelong Learning 2014-2020"

eandreadou@chem.auth.gr
natasa@chem.auth.gr



17th World Congress on

Vascular Dementia and Neurodegenerative Diseases

DELPHI in the detection of Neurological conditions and white matter Pathologies

Dr. Iftach Dolev

CEO, QuantalX Neuroscience Ltd

The disruption of normal patterns of structural brain connectivity is believed to play a central role in the pathophysiology of many neurological and psychiatric disorders, such as, dementia, movement disorders, stroke, traumatic brain injury (TBI) etc., Particularly, white matter changes lay in the heart of the onset of many pathologies.

Traditional brain imaging technologies are expensive, inaccessible, and fail to provide actionable insights regarding brain network health. Therefore, there is a huge need, for a simple, precise and accessible tool that objectively evaluates brain functional status.

DELPHI™ is an active system for the visualization of brain health. It is a proprietary acquisition and analysis AI based algorithm that interfaces with available 'Off-the-Shelf' hardware to enable direct stimulation and monitoring of the brain (TMS-EEG).

DELPHI's output measures, which are indicative for several electrophysiological features were significantly different between age defined groups as well as mild Dementia patients and age matched healthy controls.

In a multidimensional approach the DELPHI output measures ability in identification of brain white matter fibres connectivity damage in stroke and traumatic brain injury (TBI) was tested. DELPHI output measures was able to classify healthy from unhealthy with a balanced accuracy of 0.81 ± 0.02 and *AUC* of 0.88 ± 0.01 . additionally, DELPHI output measures, differentiated successfully, between cerebral small vessel disease (cSVD) diagnosed subjects and age matched healthy controls, with *AUC* of 0.88 ($p < 0.0001$), sensitivity of 0.83 and specificity of 0.75.

These results indicate DELPHI as a possible aid for early detection of white matter integrity and pathologies.



17th World Congress on

Vascular Dementia and Neurodegenerative Diseases

Influence of interferon on immune and nervous systems after initiation of experimental allergic encephalomyelitis in rats.

Nataliia O. Melnyk

National O.O.Bogomolets medical university, Kyiv, Ukraine

Was investigate morphological changers in organs of immune system– thymus and spleen and in organs of central nervous system (CNS)– spinal cord, cerebrum and cerebellum after initiation of experimental allergic encephalomyelitis (EAE) in rats. Experimental model (EAE) was use in observe changers of demyelination and remyelination in neurons and nerve fibers of central nervous system (CNS) on 21 days and 39 days.

Histological sections of the spinal cord, cerebrum and cerebellum was stain by cresyl violet and toluidine blue (by Nissl). Histological sections of thymus and spleen was stain hematoxylin – eosin and azure II-eosin. Was investigate demyelination and remyelination in nervous fibers by methods of electron microscopy and morphometry.

After initiation of EAE reactive changers in thymus was include – formation of small nodules in cortical part of lobules, decrease amount of lymphocytes in cortex of lobules in early period on 21 days. In late period – 39 days after initiation EAE and influence of Rebif® (interferon beta-1a) by 2 weeks was observe increase amount of lymphocytes in cortex.

Reactive changers in spleen was include increase amount of lymphoblasts and white pulp in parenchyma. After influence of Rebif® (interferon beta-1a) by 2 weeks, we observed process of remyelination. We observed the percentage of neurons with unmodified, moderate and severe structural changes, changers of myelinated and unmyelinated nervous fibers.

In late period of EAE (39 days), after influence of Rebif (interferon beta-1a) - myelinated nerve fibers was regenerate and the percentage of normal neurons in the brain and spinal cord was increased, the amounts of neurons with severe and destructive changes were reduce.

Our investigation formed characteristics of reactive changers in the central and peripheral organs of immune system, demyelination process in different periods in EAE condition.

Key words: demyelination, experimental allergic encephalomyelitis, multiple sclerosis, thymus, spleen.



17th World Congress on

Vascular Dementia and Neurodegenerative Diseases

A CBA of Corrective Lenses as a Dementia Intervention

Robert Brent

Dementia is a term used to describe various symptoms of cognitive decline, involving memory, language and thinking that are severe enough to affect daily activities. One of the most important symptoms of late-life dementia, especially those with Alzheimer's disease, is the person's lack of orientation. As poor vision can lead to disorientation, the loss of vision can be a primary contributor to dementia. Anything that can improve vision, such as corrective lenses, would therefore be one way of preventing the development of dementia. However, for any dementia intervention to be socially worthwhile, it is not sufficient that the intervention reduce the symptoms of dementia. It is also necessary that the benefits of the reduced symptoms be greater than the costs.

The Analysis:

In this study, we carry out a CBA of corrective lenses as a method for reducing the symptoms of dementia. The benefits of corrective lenses are obtained by estimating the direct and indirect effects (working through dementia symptoms reductions) of corrective lenses by reducing the probability of dying. The two mortality effects are converted to monetary benefits by using the value of a statistical life (VSL) obtained from the literature.

There are two estimation equations: one for estimating the effect of corrective lenses on dementia symptoms, and a second one for estimating the effects of corrective lenses and dementia symptoms on the probability of dying. We use the Clinical Dementia Rating (CDR) Scale to measure dementia severity and the probability of dying is derived from our data set supplied by the National Alzheimer's Coordinating Center (NACC).

The Data and Estimation:

The NACC data set consists of a panel of 118,00 patient visits, made up of an average of 3.2 visits over 13 years for over 30,000 participants at 32 US Alzheimer's Disease Centers over the period September 2005 and May 2017. We use a fixed effects model for estimating the impact of corrective lens on dementia symptoms, which controls for time invariant individual variables. We use a random effects Logit model for estimating the effects of corrective lenses and dementia symptoms on the probability of dying, which has to be exogenous. .

Main Findings and Conclusion:

Corrective lenses reduce the symptoms of dementia by about 0.19 of a point (on a scale of 1 to 18). A one-point reduction in dementia decreases the probability of dying by 0.003. With a VSL of around \$5 million (in 2000 prices), this makes the indirect benefits of vision correction \$2,850. Since vision correction reduces the probability of dying by 0.004, and with the VSL again equal to \$5 million, the direct benefits amount to \$20,000. With the cost of vision correction found to be \$226.48 (80% of this total being the cost of eyeglasses), the indirect benefits on their own cover the costs. Including the direct benefits, the benefit-cost ratio of vision correction is over 100 and therefore very socially worthwhile. The results have special significance for Low and Middle Income Countries.

17th World Congress on**Vascular Dementia and Neurodegenerative Diseases****Synergistic effects of Chitosan- stabilized Selenium nanoparticles and stem cells in the protection of Streptozotocin-induced neurotoxicity in the male rats****Sara Soleimani Asl¹, Siamak Shahidi²**¹*Department of Anatomy, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan, Iran*²*Department of Physiology, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan, Iran*

Alzheimer's disease (AD) is one of the common neurodegenerative disease characterized by memory impairment. The protective effects of stem cell-based therapy have been reported in AD. In this study, we assumed that Chitosan- coated Selenium nanoparticle (ChSeNPs) increase the efficiency of stem cells in the attenuation of neurotoxicity in the rat AD model. The AD model was induced using Streptozotocin (STZ) and treated by the adipose-derived mesenchymal stem cells (AMSCs) and ChSeNPs (0.4 mg/kg). Passive avoidance learning and recognition memory were assessed using shuttle box and novel object recognition tasks. The deposition of amyloid-beta, homing and survival of the injected cells, antioxidant capacity, and concentration of BDNF were assessed using the histological, biochemical, and ELISA methods. Our results showed that the administration of ChSeNPs besides AMSCs more effective in the increasing the step through latency and discrimination index than the administering ChSeNPs or AMSCs separately. Moreover, combined therapy caused a significant increase in antioxidant capacity and BDNF concentration compared to conventional treatment of ChSeNPs or AMSCs alone. Ultimately, the homing and survival of the transplanted AMSCs were greater in the group that received both stem cells and ChSeNPs. Taken together, it seems that the administration of ChSeNPs enhances the efficiency of transplanted stem cells in decreasing the neurotoxicity induced by STZ through an increase in the antioxidant capacity and BDNF concentration.

Biography

Sara has graduated in anatomical sciences from Tehran University of Medical Sciences. Currently, She is working at Hamadan University of Medical Sciences as an associate professor and doing researches about stem cells and neurodegenerative disease. She has had a long- term intensive interest in neurodegenerative disease and possible therapeutic. Now, She is trying to differentiate the various stem cells to nerve cells and improve the in-vivo environments to administration the cells in the neurodegenerative disease.

eandreadou@chem.auth.gr



17th World Congress on

Vascular Dementia and Neurodegenerative Diseases

Simon Raymond

Melbourne University

Intellectual property (IP) theft represents one of the most serious crimes globally. IP theft from computer type devices is relatively well understood. IP theft progressing to that directly from the minds of individuals seems a natural extension. However, it is not yet well understood by the medical community,

IP theft directly from the minds of individual appears to be occurring. It is established based on:

1. The presence of mind abuse programs
2. An axis of interest directed at the mind of individuals copying neurological processes

Mind abuse + copying neurology = abusive copying of neurology

Last lecture we covered governments and the medical profession; this lecture focuses on corporations. Corporate activity includes in depth analysis of consumer preference analysis and decision making. It should be ensured this doesn't expand into dangerous territories including IP theft.

Conclusion: IP theft directly from the minds of individual appears to be occurring. It is established based on:

1. The presence of mind abuse programs¹⁻³
2. An axis of interest directed at the mind of individuals copying neurological processes^{1-2, 4}

Mind abuse + copying neurology = abusive copying of neurolog

Biography

Simon Raymond is a Consultant (medicine and surgery) specialising in Medical and Scientific Research and an Alumnus of Melbourne University (Rank of Number 1 in Australia and Number 33 in the World). The above stated Researcher has acted as a Reviewer for the respected Medical Journal of Australia, has received invitations internationally to review from prestigious medical journals including Journal of American Medical Association Network. He has received award in recognition of his research by Royal Australasian College of Surgeons (PSC, 2006) and invited to conferences internationally as an official Delegate and Researcher, including that in USA and China. Dr Simon Raymond is a graduate of medical school who shifted from clinical practitioner medicine and surgery into a focus on high level scientific research. Dr Simon Raymond has acted as the Principle Researcher in the highest-powered form of medical trial – Randomised Controlled Trial (RCT). The above stated Researcher is also a Member of the Golden Key International Society for Honoured and outstanding Academics and has been cited as a Notable Global Leader. Dr Simon Raymond research has been indexed by well-respected universities including Cornell University.



17th World Congress on

Vascular Dementia and Neurodegenerative Diseases

The Hot Brain Hypothesis, stress research and implications for the neuropsychiatric classification of emotion related brain functioning

Valentin Ionescu

Faculty of Biology, Bucharest University, 050095 Romania

My research of the effect of stress on adolescent brain functioning has led to the validation of the positive therapeutic impact of the fluid teaching interaction, based on a dimension of personality called fluidity (empathy, sincerity and positive interaction). The equation of fluidity that relates this dimension of the student, teacher and group and the salivary cortisol samples after a social stress test, followed by a fluid interaction in a democratic encounter group, prove the biological impact of such specific interaction on the reduction of stress. The effects of this approach are educational, developmental and therapeutic as well. They sustain a hypothesis about emotions and cognitive processes in the brain, the Hot Brain Hypothesis, and a micro-hypothesis about a quadruple brain functioning classification (supercold, cold, hot and superhot brain) that has consequences from the neuropsychiatric perspective of establishing a diagnostic and of an efficient therapeutic intervention. I present some criteria and elements of each category and at the same time I argue that the proposed classification of brain functioning from the emotion-cognition interaction perspective surpasses the linear and clear-cut partition and offers arguments for the four types of brain functioning as a psychiatric taxonomy on a continuum but also, *mutatis mutandis*, as four modes of everyday brain functioning in an active-adaptive strategy to a changing social context.

Biography

Valentin Ionescu has completed his PhD in philosophy at the age of 33 from Bucharest University and attends a neurobiology master program at Faculty of Biology. He is a school teacher at Cantemir-vodă National College and has a collaboration with the Pedagogy Center of the Faculty of Philosophy and the C I Parhon Endocrinology Institute. He has published four papers in reputed spanish journals on philosophy, psychology and neuroscience topics, a book, *El hombre fluido y el futuro de la enseñanza. Una perspectiva de la psiconeuroendocrinología social y afectiva*, and gave four presentations at three conferences only in 2019. He is also a writer and published two letters (out of 34) of his alter-ego: Don Quixote the second.