

Annual Meeting on Neuroscience and Neurology - 2019

"Advancement and Clinical Research on Neurology"

Novotel Melbourne Central

Melbourne, Australia

24th-25th October, 2019

Organized by:

BioLEAGUES Worldwide

In Association with



Gesellschaft für Neuropsychologie e.V.

Preface

This book reports the Proceedings of the *Annual Meeting on Neuroscience and Neurology (Neuroscience 2019)* held at *Novotel Melbourne Central, Melbourne, Australia* on the *24th & 25th of October 2019*, organized by *BioLEAGUES Worldwide*.

The publishing department has accepted more than 120 abstracts. After an initial review of the submitted abstracts, 26 papers were presented at the conference and were accepted for publication in the Conference Proceedings. The topics that are covered in the conference include Neuroscience, Neurosurgery, Neurology, Neurological Disorders, Psychiatry, Neurological Disorders Treatments and Recent Therapy. We would like to thank all the participants for their contributions to the conference and the proceedings.

Reviewing papers of the *Neuroscience 2019* was a challenging process that relies on the goodwill of those people involved in the field. We invited more than 15 researchers from related fields to review papers for the presentation and the publication in the *Neuroscience 2019* Proceeding. We would like to thank all the reviewers for their time and effort in reviewing the documents.

Finally, we would like to thank all the proceeding team members who with much dedication have given their constant support and priceless time to bring out the proceedings in a grand and successful manner. I am sure this *Neuroscience 2019* proceeding will be a credit to a large group of people, and each one of us should be proud of its successful outcome...

Neuroscience 2019

From BioLEAGUES Director's Desk...

On behalf of **BioLEAGUES Worldwide**, I am delighted to welcome all the delegates and participants around the globe to the *Annual Meeting on Neuroscience and Neurology* which is going to be held at **Novotel Melbourne Central, Melbourne, Australia on October 24th and 25th, 2019.**



This conference will revolve around the theme "*Advancement and Clinical Research on Neurology*". It will be a great pleasure to join with Doctors, Research Scholars and Academicians all around the globe. You are invited to be stimulated and enriched by the latest innovations in all the aspects of Environment issues and prevention techniques, while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the Chair person, Organizing Secretary, Committee Members, coordinator BioLEAGUES and all the people involved for their efforts in organizing the Neuroscience 2019, Melbourne, Australia and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at Melbourne, Australia

A handwritten signature in blue ink that reads "A. Siddh Kumar Chhajer". The signature is written in a cursive style.

A. Siddh Kumar Chhajer
Director
BioLEAGUES



Dr. Birendra Kumar Bista

Chairman & Sr. Neurologist

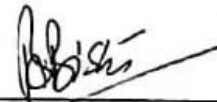
Neuro Cardio & Multi-Specialty Hospital Pvt. Ltd., Nepal

Presidential Message

It gives me immense pleasure to pen few words for the "Annual Meeting on Neuro Science & Neurology-2019". Achievement in Clinical Research in Neurology.

This meeting of the great Masters in the field of Neuro Science is to exchange, promote, showcase, teach and learn for the betterment in the management of Neurological Disorders Worldwide.

I hope that we are all enlightened during the discourses of this conference and I request all attendees to avail of this opportunity to get the best knowledge. I congratulate the organizers for the conference and hope to attend similar meetings in future.



Dr. Birendra Kumar Bista
Chairman & Sr. Neurologist

Ken Ware

Head, Research and Development
NeuroPhysics Therapy Institute, Australia



***Welcoming message from Ken Ware
for the "Annual Meeting on Neuroscience and Neurology" 2019***

It is indeed my great honour to warmly welcome all attendees of the '*Annual Meeting on Neuroscience and Neurology 2019*'. On behalf the Organising Committee and myself I sincerely thank you all for your commitments and efforts in attending, preparing and presenting your innovative and valuable research and findings at this meeting.

I also extend a warm welcome and gratitude to those of you who have joined us at the meeting to support your colleagues and to learn much from the other presenters. A very diverse range of distinguished speakers promise to present innovative research, interventions and therapies at this meeting and provide each one of us with exciting opportunities to expand upon our knowledge and the direction and focus of our own specialized area of interest.

I am sure there will be many new and exciting collaborations emerge from this meeting.

I wish you all great enjoyment of this meeting and much success with your presentations and forming of new collaborations.

From BioLEAGUES CEO's Desk...

It is indeed a privilege to acknowledge and thank all the supporters and organizers of the “**Annual Meeting on Neuroscience and Neurology**”, who contributed greatly to organize the conference successfully.

I would like to acknowledge and thank the Chief Guest for his/her valuable contribution in the *Neuroscience 2019, Melbourne, Australia*.

My special thanks to all of our Special Guests who so graciously accepted our invitation to participate in the conference. I also wish to acknowledge and thank the sponsors of the conference whose financial support was extremely grateful.

I would like to specially thank our Advisory Committee Members from various Organization whose continuous support have helped us plan and execute the conference successfully.

I am highly indebted to the contribution given by all the Scientists, Doctors, Research Scholars, Practitioners, Academicians and students to the conference.



A handwritten signature in black ink, appearing to read 'R. B. Satapathy'.

Mr. R. B Satapathy
CEO
BioLEAGUES

Keynote speakers



Uppal Neuro Hospital
& Super Speciality Centre

Non-Motor Symptoms in Parkinson's Disease - Hidden Entity

Dr. Salil Uppal

Medical Director, Uppal Neuro Hospital, India

Abstract

Parkinson's Disease (PD) although still considered a paradigmatic movement disorder, it is associated with a wide range of non-motor symptoms.

These include disorders of mood and affect with depression, apathy, anhedonia, cognitive dysfunction and hallucinations, as well as behavioural disorders which are complex. Sensory dysfunction with olfactory dysfunction or pain is almost present in all patients.

There are also disturbances of sleep-wake cycle regulation like insomnia. Autonomic dysfunction including orthostatic hypotension, constipation and urogenital dysfunction is also present to some extent in a majority of patients.

In broad non-motor symptoms become increasingly prevalent with advancing disease, many of them can also precede the first occurrence of motor symptoms - most notably depression, olfactory dysfunction or rapid eye movement sleep behaviour disorder (RBD) and constipation. Although exact clinico-pathological correlations for most of these non-motor features are still poorly understood, but it is consistent with the ascending hypothesis of PD pathology proposed by Braak and colleagues.

Objective

Screening these early non-motor features might, therefore, be one approach towards early 'preclinical' diagnosis of Parkinson's Disease and correlate with H & Y staging of Idiopathic Parkinson's Disease.

Methods and Material

We studied 100 diagnosed cases of Idiopathic Parkinson's Disease and screened them for Non motor symptoms using Chaudhary et al non motor symptom questionnaire. We also correlated them with modified H&Y staging for Parkinson's Disease.

Conclusion

It was seen that there were many non-motor symptoms present in Parkinson's disease among which depression, constipation, RBD, urinary dysfunction were common. It was also seen that some non motor symptoms preceded motor symptoms like olfactory dysfunction, depression and constipation. There is correlation with modified H&Y staging, as the stage increases there are more non motor symptoms which affect the daily life style of patient.



Biography

Uppal is a Doctor of Medicine in Neurology. He is the Medical Director of Uppal Neuro Hospital in Amritsar. His area of interests lies in Stroke, Epilepsy, Neuro Critical Care, and Movement Disorders. His research works include Non- motor symptoms in Parkinson's Disease, Transcranial Doppler in Acute Ischemic Stroke, Epilepsy and Migraine.



Blood Pressure Optimization in Different Types of Stroke A Systemic Review

Bista BK

Chairman, NeuroCardio & Multispecialty Hospital, Biratnagar, Nepal

Singh S

Head of Department of Interventional Neurology, Biratnagar, Nepal

Abstract

Stroke alters the cerebral autoregulation as a result blood pressure is elevated in most of the stroke patients. Different stroke types namely, intracerebral hemorrhage, ischemic infarct and SAH (Subarachnoid Hemorrhage) each require different ranges of BP blood pressure optimization to maintain CPP and MAP. Inappropriate ranges of BP result as rebleed, infarct evolution and cerebral edema. The stroke types require different MAP (Mean Arterial Pressure), CPP (Cerebral Perfusion Pressure), Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP) to maintain adequate cerebral perfusion. Blood pressure optimization is among one of the most important steps in neuroprotection. This systemic review presents the latest updates in BP management in acute stroke. It also stipulates recommended ranges of CPP, MAP, ICP (Intracranial Pressure), SBP and DBP, for acute stroke management. Emphasis on, injectible antihypertensives only in acute stroke is given and commonly used IV (Intravenous) agents are also listed.

Biography

Dr BK Bista, is one of the first neurologists of Nepal. He has been pioneering in field of neuroscience in Nepal and established the first neuroscience center of eastern Nepal. Through years the work of this neuroscience center has been recognized home and abroad. He shows keen interest in medical management and providing state of art services to this impoverished region of Nepal. Recently he added the first stroke center of Nepal. He firmly believes in continuous updated education and its implementation in hospital practices.

Dr. Samarth Singh is a neurophysician and an interventional neurologist; first neurointerventionist of Nepal. A medical graduate from Bangladesh, did his adult neurology residency and training in Neurocritical care from Jose Reyes Memorial Medical Center and St. Lukes Medical Center



respectively , both from the Philippines. He continued to pursue neuroscience and completed his Fellowship in Interventional Neurology and Stroke from Max superspeciality hospital, Saket , N.Delhi. Dr. Singh also gained managerial skills as he did MBA in Healthcare from University of Findlay, Ohio, US. At present he is HOD of department of Interventional Neurology, Neurocardio Hospital, Biratnagar, Nepal .



Neurovascular Coupling in Patients with Ischemic Stroke

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Department of Physiological Nursing, University of California, San Francisco, USA

Dan Wu

Department of Physiological Nursing, University of California, San Francisco, USA

Yuehua Pu

Neurointensive Care Unit, Department of Neurology, Beijing Tiantan Hospital, Beijing, China and China National Clinical Research Center for Neurological Diseases, Beijing Tiantan Hospital, Capital Medical University, Beijing, China

Liping Liu

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Xiao Hu

Department of Physiological Nursing, University of California, San Francisco, USA

Abstract

Neurovascular coupling enables adaptation of Cerebral Blood Flow (CBF) to support neuronal activity. Modern techniques enable the simultaneous recording of neuronal activities and hemodynamic parameters. However, the neurovascular coupling mechanism remains understudied. In this study, we applied a Phase-Amplitude Cross-Frequency Coupling (PAC) algorithm to investigate multimodal neuro signals including surface electroencephalogram (EEG) and CBF from transcranial Doppler ultrasonography (TCD). We also investigated the causal relationship between EEG and CBF with using Granger Causality (GC) analysis.

Methods

Twenty simultaneous recordings of EEG and TCD Cerebral Blood Flow Velocity (CBFV) from 17 acute ischemic stroke patients admitted to the Neurointensive Care Unit, Tiantan Hospital, Capital Medical University (Beijing, China) were studied. Each patient had simultaneous, continuous monitoring of EEG and bilateral CBFV in either the Middle Cerebral Arteries (MCA) or Posterior Cerebral Arteries (PCA). PAC was calculated between the phase of CBFV in frequency bands (0–0.05 and 0.05–0.15 Hz)



and the EEG amplitude in five bands (δ , θ , α , β , γ). The global PAC was calculated as the sum of all PACs across the six EEG channels and five EEG bands for each patient. The hemispherical asymmetry of Cross-Frequency Coupling (CFC) was calculated as the difference between left and right PAC.

GC analysis was carried out to investigate causal interactions between slow waves of FV (Frequency Band: 0.006 - 0.4 Hz) and the amplitude of EEG in five frequency bands. Mean GC index across EEG

frequency bands was calculated to estimate the causal relationship between EEG and CBFV and then correlated with NIH Stroke Scale (NIHSS) at admission/discharge and the modified Rankin Scale (mRS, favorable outcome when $mRS \leq 2$) at discharge.

Results

The PAC between CBFV and EEG was significantly higher in β and γ bands than in the other three bands. Occipital region (P3-O1 and P4-O2 channels) showed stronger PAC than the other regions. The deceased group tended to have smaller global PAC than the survival group (the area under the receiver operating characteristic curve [AUROC] was 0.81, $p = 0.57$). The unfavorable outcome group showed smaller global PAC than the favorable group (AUROC = 0.65, $p = 0.23$). The PAC asymmetry between the two brain hemispheres correlates with the degree of stenosis in stroke patients ($p = 0.01$).

Granger analysis identified a causal relationship from EEG \rightarrow FV, indicating past EEG contained information that predicted CBFV. The NIHSS negatively correlates with mean GC index value, which means a stronger causality between EEG and FV exists in patients who are less severely affected. No significant difference in GC index exists between patients with favorable and unfavorable outcomes ($p > 0.05$).

Conclusion

We showed that CBFV interacts with EEG in β and γ bands through a phase-amplitude CFC relationship, with the strongest PAC found in the occipital region and that the degree of hemispherical asymmetry of CFC correlates with the degree of stenosis. A G-causality causal relationship from EEG \rightarrow CBFV may exist in patients with ischemic stroke. The strength of G-causality may be related to stroke severity at discharge.

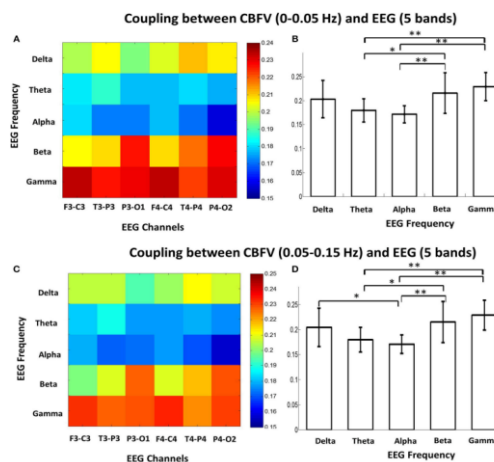




Figure 1. (A) Mean phase-amplitude cross-frequency coupling (PAC) between CBFV (0–0.05 Hz) and EEG of six channels in five frequency bands (δ , θ , α , β , γ) of the 16 patients. (B) Statistical comparison

of mean PAC between CBFV (0–0.05 Hz) and EEG in the 5 frequency bands (δ , θ , α , β , γ). (C) Mean PAC between CBFV (0.05–0.15 Hz) and EEG of six channels in five frequency bands of the 16 patients. (D) Statistical comparison of mean PAC between CBFV (0.05–0.15 Hz) and EEG in the 5 frequency bands.

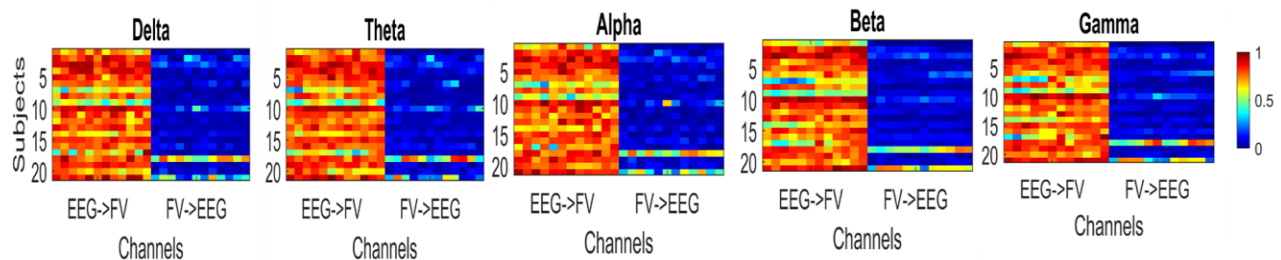


Figure 2. Proportions of 5-minute windows showing statistically significant GCI for each recording (n=20).

Biography:

Dr. Xiuyun Liu is a postdoctoral researcher in the Department of physiology nursing, University of California, San Francisco (UCSF), USA. She undertook her PhD in the Department of Clinical Neurosciences, University of Cambridge, UK. Dr. Liu has experience in clinical data analysis, especially cerebral autoregulation assessment, transcranial doppler studies. Her research is related with treatment of traumatic brain injury patient.



Exploiting the Central Nervous Systems ‘Natural Chaotic Neural Phenomena’ Through NeuroPhysics Therapy to Optimize the Return of Lost Motor Function Causal of Variable Forms of Lesions to the CNS

Ken Ware

Head of Research and Development, NeuroPhysics Therapy Institute, Australia

Abstract

In 2013 world renowned Paralympian John Maclean became the first long term paraplegic to suddenly walk again. Maclean who had been wheelchair dependent for 25 years pre engaging in NeuroPhysics Therapy (NPT) took his first recorded unassisted steps in 25 years within the first 3 days of this non-controversial therapy. More so, 18 months post NPT, Maclean completed a conventional (abled persons) Triathlon. 60 minutes Australia picked up the story in which a prominent spinal cord injury expert and researcher referred to MacLean’s ability to walk again as a miracle - given the significance of the lesion to his spinal cord at T12. Maclean describes the events that lead to him being able to walk again in his bestselling book titled ‘How Far Can You Go’.

John Maclean’s well-publicized unprecedented transition from wheelchair athlete to able bodied athlete lies amongst many other ongoing promoted successes of NPT in assisting large numbers of people suffering from complex neurological conditions and enabling other paraplegics and quadriplegics to either walk again or significantly enhance their functional capacity in very small timescales. NeuroPhysics Therapy Institute’s focus is to better understand the discrete values of the CNS’s natural chaotic neural phenomena and how this phenomena can be therapeutically systematically exploited to dramatically enhance the complexity of the CNS to enable it to compensate for variable lesions including but not restricted to; Stroke, Acquired Brain Trauma, Parkinson’s disease, Epilepsy, MS, Muscular Dystrophy. As well as psychophysical based disorders such as CRPS, Dystonia, Fibromyalgia.

The success of NPT hinges upon a Complex Adaptive Systems (CAS’s) approach and the understanding of disease and disorder through the lens of complexity as a loss of the systems complexity. This presentation will review the non-ambiguous step by step scientific principles and rational that produce unprecedented benefits in very small time scales to clients who have often suffered from long term complex neurological diseases and disorders, along with supportive electropsychophysical data and extracts from relative peer reviewed publications. As well, reconfirm the undeniable successes of NPT



and the need to make NPT available to the global community. To accomplish this more research and publications collaborations are sought.

Audience Take Away:

- Most research and therapeutics involve a mechanistic and reductionism approach based upon cause and effect. This presentation highlights and encourages the benefits of including scale free systems thinking and approaches along with networks science wisdom to better solve complex problems involving lesions of the human CNS. The negative phenotypic plasticity involved in the development of neurological disorders is subject to perception and environment. A neurological disease or disorder is

often the end result of rouge perceptions of environment, therefore all envisaged pursuits to alter the psychophysical phenotype must be sensitive to the roles that perception and environment play in the day to day evolution of the CNS. You cannot understand the living cell in isolation to the organism it inhabits and you cannot understand the organism in isolation to the environment it inhabits. Likewise, you cannot understand disease, disorder and psychophysical functionality in isolation to the organism and the relationship it has with the environment it inhabits. Through novel perspectives and approaches the audience will be able to better understand the intrinsic nature of problems they are often faced with in research and therapeutics and why hypothesis does not often agree with the results of experiment.

- The audience will be introduced to meaningful ways of acquiring, viewing and analyzing data that enable for better descriptions and predictions for the future outcomes of the systems they are studying. It is envisaged that from this information the audience will be able to construct a point of difference with their proposals for funding and be able to design more meaningful ways to do research that will produce more desirable outcomes.

<https://www.neurophysicstherapy.global/> <https://www.neurophysicstherapy.global/research/>

https://www.researchgate.net/profile/Ken_Ware/research <https://vimeo.com/user20254671> Vimeo

Biography

Ken Ware was founder of Neurotricial Sciences Pvt Ltd and NeuroPhysics Therapy and Research and he had been in private practice for almost 30 years, while doing independent and collaborative research. He also presented unique research at 10 major International Science Conferences including neuroscience, Physics, Psychology and Life Sciences, which covers a very broad scientific audience.



Predictors of Death or Severe Impairment in Extremely Low Gestational Age Neonates

Sandra Juul

Professor, Department of Pediatrics, University of Washington, USA

Abstract

The Preterm Epo Neuroprotection (PENUT) Trial randomized 936 infants 24-0/7 to 27-6/7 weeks' gestation to high dose Epo or placebo in the first 24 hours after birth. Infants received either 1000 IU/kg IV every other day for 6 doses or placebo, followed by 400 IU/kg/day SQ or sham injections on MWF through 32 completed weeks post menstrual age (PMA). The primary outcome was defined as death or severe neurodevelopmental impairment (NDI): cerebral palsy or Bayley-III Motor or Cognitive Scores < 70) at 22-26 months PMA. Subjects underwent a head ultrasound and blood sampling on day 1 prior to study drug dosing. Epo, interferon γ , TNF α , IL 6, 8, and 10 were assayed by Meso Scale Discovery. Data were analyzed using Generalized Estimating Equations (GEE) with robust standard errors to account for twins/multiples, adjusting for treatment assignment and age at birth. A multivariable GEE model was used to evaluate the independent contribution of biomarkers found to be associated with the primary outcome. Baseline factors (present in 1st 24 hours of age) associated with death or NDI included low gestational age, any day 1 intracranial hemorrhage, ($p < 0.001$), elevated baseline Epo and IL-10 levels ($p = 0.034$ and 0.031 , respectively), Hispanic ethnicity ($p = 0.017$) and low Apgar score ($p < 0.001$). Late predictors included multiple transfusions, pulmonary hypertension ($p < 0.001$), pneumothorax ($p = 0.02$), intubated > 1 week (0.01), BPD at 28 days ($p < 0.001$) white matter injury ($p < 0.0001$), ROP surgery performed ($p = 0.02$) and hydrocephalus ($p < 0.0001$).

Trial registration number: NCT01378273

Biography

Dr. Juul leads a translational neonatal neuroscience research program. The focus is to identify new therapeutic approaches to neonatal brain injury, determine whether they are safe and effective, and if so, bring these new treatments from the laboratory to the bedside. Dr. Juul is Principal Investigator of the Preterm Epo Neuroprotection trial (PENUT), and multi-PI with Dr. Yvonne Wu on the High-Dose Erythropoietin for Asphyxia and Encephalopathy (HEAL) Trial, a randomized controlled trial of Epo neuroprotection for 500 term infants with Hypoxic-Ischemic Encephalopathy (HIE).

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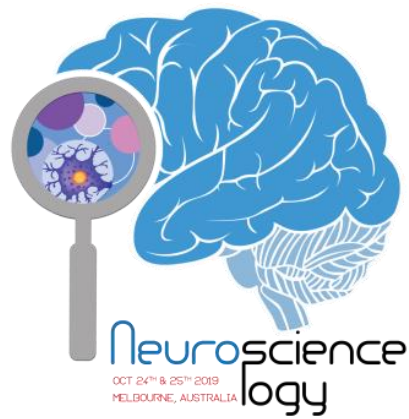
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ABSTRACTS



AI and Machine Learning Use of Psychometric in the Management of Mental Health and Well-Being

Aram Cargill

CEO, Change Challenge, Australia

Abstract

In the last decades, personality has become a major area of research in psychology. At the present time, the Big Five model is the most popular approach to personality, having been used in settings that include research, education, and employment. The HEXACO model, on the other hand, is a more recent approach to personality that includes an additional personality factor, namely Honesty-Humility (H).

The lexical approach on which the Big Five and the HEXACO models are developed does not come without limitations. On the assumption that measuring personality traits with language-based questionnaires is particularly problematic for the Honesty-Humility factor given the stigma associated with concepts indicating dishonesty, we propose an AI-based model for detecting deceptive responses during the assessment of the H factor. Our model is an adaptation of deception analysis reasoning engine (DARE), an AI system that uses high- and low-level facial features to predict deception in real-life trial videos. The model we propose is meant to provide an enhanced detection of deceptive responses during personality assessment and, consequently, improve the accuracy of personality tests based on advancements to the Big Five with the inclusion of the H factor of HEXACO model and the deception reasoning engine that we refer to as Ocean H₂O

Biography

Aram Cargill is the Founder of Change Challenge, a ground-breaking program that examines and resolves conflicted decision-making, procrastination, addiction and other self-sabotaging behaviours that hinder individuals from performing at their best and becoming the human being they want to be.



Case Study: Measurements of the Significant Functional Outcomes of NeuroPhysics Therapy for the Treatment of Acute Brachial Plexus Trauma

Stewart Cheffirs

NeuroPhysics Therapy practitioner, Central Queensland, Australia

Abstract

Patient presented with high level brachial plexus lesion to the right side of the body 3 months post injury. The medical prognosis was that there would be limited use of the appendage/limb and was cause for permanent disability. The patient had undergone extensive physiotherapy and other forms of psychophysical therapy with very minimal to no results. It was recommended to the patient that he engage in 4 days of intensive NeuroPhysics Therapy (NPT) to enable an assessment of his ability to systematically reacquire lost functions.

Pre engaging in NPT, the functional capacity of the right arm was that of very limited to no movement and sensation and minimal to no grip strength in the hand. It was very pale in color due to loss in blood circulation. However, within 4 days of NPT the patient had successfully acquired a 25% increase in range of motion and 25 % increase bicep tricep activity and grip strength. However, with ongoing maintenance of his NPT program, within 3 months he had acquired psychophysical bilateral stability and the progressive scan showed a significant degree of recovery to the axillary nerve then followed by the radial nerve. These unprecedented outcomes are similar in significance to many other well publicized unprecedented outcomes that patients with significant lesions to the central nervous system have acquired through NeuroPhysics Therapy.

This presentation will include visual before and after images and outline the general protocols and rationale that are unique to NPT in having a complex adaptive systems approach to effective rehabilitative therapies.

Key Words:

Brachial Plexus Trauma, Complex Adaptive Systems, Rehabilitative Therapies, NeuroPhysics Therapy.



Biography

Is a practicing NeuroPhysics Therapist and has been practicing as a postgraduate for 4 years. He originally practiced out of the NeuroPhysics Therapy (NPT) Institute on the Gold Coast under the guidance of NPT founder Ken Ware, learning, researching and experimenting with NPT with a diverse range of pathologies.

At present he is practicing and continuing research in Central Queensland assisting many people in need to enhance their quality of life.



The use of Infrared Thermography to Observe Phase Transitions in Complex Adaptive Systems during NeuroPhysics Therapy

Jeff Erichsen

Practitioner, Ken Ware Neuro Physics Therapy, Australia

Abstract

This presentation aims to showcase the advantages of Infrared Thermography (IRT) when used to view phase transitional dynamics in peripheral blood distribution, when clients are engaged in NeuroPhysics Therapy. Discussion will be on how observable phase transitions indicate the central nervous system positive nonlinear responses to intensive NeuroPhysics Therapy sessions. Case studies will be delivered demonstrating phase transitions in thermal video taken of injured world class athletes participating in the therapy; which clearly show pictorial evidence from high-end (640 x 480 FPA) infrared technology indicating both the dissipation of thermal energy from areas of the system related to the fight flight mechanism & the system finding balance in these areas. Having worked with Ken Ware at NeuroPhysics Therapy Institute from 2013, the author has recorded and analysed hundreds of hours of infrared data which clearly shows consistent global phase transitions in blood distributions in all patients with varying conditions.

Key Words

Infrared Thermography, Phase Transitions, Complex Adaptive Systems, Central Nervous System, NeuroPhysics Therapy

Biography

Jeff Erichsen is a Category 3 industrial Infrared Thermographer and Category 1 & 2 industrial Infrared Thermography trainer who has spent thousands of hours on practical R&D and development in observing thermal behaviours of electrical and mechanical systems. His involvement in observing human systems with high end Thermal Imaging Cameras dates back to 2013 and over the past 6 years has observed and analyzed phase transitions in peripheral blood flow during various treatment modalities. Jeff's involvement has predominately been with NeuroPhysics Therapy where he has spent hundreds of hours working with some of the world's leading scientists.



Evaluation and Effectiveness of an Integrated Psycho-Physical Approach towards the Rehabilitation of Lost Functionality of Stroke Patients and the Impact of PTSD on Recovery: A Case Study Combining Psychological Intervention and Neurophysics Therapy

Frank Cuiuli

Neurophysics Therapy practitioner, Sydney, Australia

Josie Wakim

Psychologist, AHPRA ~ MAPS, JSC Psychology Centre, Sydney, Australia

Abstract

There is evidence to suggest that there are many psychological factors that contribute to the functional improvements and other recoveries post stroke survival that significantly assist in rehabilitation improvement. In this study it is expected that with heightened positive psychological states in patients Neurophysics Therapy is significantly effective in assisting the rehabilitate process in developing various forms of central nervous systems that have been impaired.

The methodology specifically was based on a comparison design using pre-existing data on the patient's physical and psychological condition utilizing an evidence-based approach to post treatment with Neurophysics and psychological testing in determining the levels of improvement to physical functionality.

A case study on Ana who is a New York based medical practitioner who suffered a stroke in 2014. Ana's physical impairments were extreme impacting on her ability to use her right arm with major loss of her ability to use both her legs for any movement. As a result of her physical disability and loss of functioning, there was significant psychological trauma. Patient was diagnosed with PTSD, Depression and Anxiety. The medical prognosis was negative and encouraging Ana to live her life in a wheelchair. Despite all mainstream medical treatments from international practitioners, her condition deteriorated with very little improvement. There was significant measurable improvement to Ana's physical and psychological health with an extensive and very rigorous 5 week treatment program. The results showed a breakthrough in rehabilitation and major improvement to Ana's ability to walk assisted slightly and use the function of her hand moderately.

In Conclusion, this research shows evidence of positive outcomes for patients with stroke and PTSD incorporating an integrated Psycho-Physical approach involving Neurophysics therapy and intense psychological intervention as the preferred treatment.



Biography

Frank Cuiuli is the Founder of PIVOTme and Practising NeuroPhysics Therapist. He Studied under Ken Ware at the Neurotricional Sciences Institute since 2016 Has had a focus on PTSD, Generalised Pain Disorders and Sporting Injury



Case Study: Outlining the Significant Restoration of Lost Function and Stability through NeuroPhysics Therapy for the Treatment of Acquired Brain Injury and Severe Vestibular Deficits

Kam Wilkinson

NeuroPhysics Therapy practitioner, Perth, Western Australia

Abstract

E As a result of a scooter accident this 75 year old male patient sustained significant cerebellar damage, multiple fractures, hydrocephalus, subarachnoid hemorrhage, subdural hematoma, requiring x 2 craniotomies and Severe Vestibular deficits (BPVV). The documented medical opinion and prognosis determined he would never be able to achieve independent ambulation and that his vertigo symptoms had minimally improved and will remain the same. The patient had undergone extensive physiotherapy and other forms of rehabilitation therapy for 6 months post injury with very minimal improvements. It was then recommended to the patient that he engage in 4 days of intensive NeuroPhysics Therapy (NPT) to enable an assessment of his ability to systematically reacquire lost functions. Pre the 4 days of intensive NPT, the patient was primarily wheelchair dependent as he was unable to walk unassisted without falling. He also presented with challenging vertigo symptoms and significant atrophy of the musculoskeletal system.

Within 4 days of NPT the patient had successfully acquired significant measurable improvements in walking, balance and strength. Being able to walk 30m unassisted, performing standing DB presses above head and bouncing a swiss ball back and forth whilst standing.

This presentation will be supported with pre and post video images and highlight the sensitive protocols and rationale that are unique to NPT and which have verifiably proven to be highly effective for many other patients who had acquired significant lesions and insults to their central nervous systems.

Key Words

Acquired Brain Injury, Vestibular Deficits, Complex Adaptive Systems, Rehabilitative Therapies, NeuroPhysics Therapy.

Biography

Kam Wilkinson is a key member of the NeuroPhysics Therapy organisation and currently practicing as a NeuroPhysics Therapist. He is an assistant Ken Ware NeuroPhysics Therapy Institute researcher in Perth, Western Australia.

Practicing as a NeuroPhysics Therapist and researcher Kam has worked with a large number of patients with diverse and complex neurological disorders. He has successfully been able to improve



functionality for these patients, despite their often-grim prognosis in very small-time scales in situations where all other medical and non-medical interventions have failed. He is involved in the ongoing research of complex and chronic neurological conditions and is the Educational Coordinator for Neurotricial Sciences.



Epileptic Seizure, Referred to as Earthquakes of the Brain: From Metaphor to NeuroPhysics Therapy

Tom Ware

NeuroPhysics Therapy Practitioner, Melbourne, Australia.

Abstract

Epilepsy affects approximately 65 million people globally, with 150,000 new cases diagnosed in the U.S. annually. Over 30% of these individuals suffer uncontrolled seizures, defined as an unacceptable quantity of seizures despite reasonable treatment and, at present, there is no reliable means of seizure prevention. Decades of conjecture as to the nature of the underlying physiologies and sequelae of seizure pathology has led to scientific agreement among complexity scientists that these events arise from a rigid orderliness (i.e., over-synchronization) of brain regions pulling the physiologies away from more naturally chaotic default rhythms. It has been further hypothesized that the seizure is the body's way of disposing excess energy as the system strives to restore complexity. This is similar to the way that energy is dissipated from the earth's crust during an earthquake, and, importantly, the distributions of seizure energy flows and recurrence times are similar to that of earthquakes as well. Thus, it may be possible to utilize the physiological tremors of NeuroPhysics Therapy (NPT) to provide an avenue for energy dissipation via smaller, more frequent tremor events that may, ultimately, prevent a large seizure episode. In this talk, data will be presented from four cases of epileptic seizure to examine the physiological changes associated with NPT. Nonlinear measures of synchronization and entropy will be explored, and the results will be discussed in the context of seizure dynamics, and lateralization/desynchronization techniques during the application of NPT for seizure prevention.

Key words

Epilepsy, Uncontrolled Seizures, Over-Synchronization, lateralization/desynchronization techniques, NeuroPhysics Therapy



Case Study: Significant Functional Outcomes of NeuroPhysics Therapy for the Treatment and Management of Parkinson's Disease

Olly Coffey

NeuroPhysics Therapy practitioner, Tauranga, New Zealand

Abstract

Patient of 63 years old was diagnosed with Parkinson's disease with associated dementia and severe depression in 2009. He takes a wide range of medications but his symptoms are poorly managed. He has been to physiotherapy, acupuncture, speech therapy, a neurologist and seen a clinical psychologist. The patient was referred to partake in NeuroPhysics Therapy by his acupuncturist.

Before beginning NeuroPhysics Therapy, the patient's speech, posture, balance, gait and activities of daily living were affected significantly. He experienced tremor and increased rigidity throughout the day. He has experienced a number of falls and has received a minor head injury following his latest fall. His dexterity in his fingers was poor and he struggled with buttons, belts and shoelaces. He was in constant pain in his neck, shoulders and lower back. His cognitive functions such as short-term memory, concentration and ability to plan effectively were also affected.

Within 4-days of NPT however, the patient was able to self-correct his posture, regulate his emotions and modulate pain during mild controlled demands. His walking improved and his tremor subsided significantly. The patient's speech improved and he reported that his thoughts were clearer and his concentration had improved. Over a course of 8 weeks, the patient learned to achieve these same reductions in symptoms through self-practice of his NPT exercises.

This presentation will include videos of the patient both before and after the 4-day treatment. The NPT protocol used and the rationales unique to NeuroPhysics Therapy, which promotes systematic self-organization will be outlined.

Key Words

Parkinson's Disease, Self-Organization, NeuroPhysics Therapy



A Review of Alzheimer's Disease Formation, Diagnosis and Treatment

Xueer Wang

Cardiff Sixth Form College, Cardiff, United Kingdom

Abstract

Alzheimer's disease is one prevalent form of dementia associated with ageing, which is affecting approximately 1.3% of the UK population. Although the exact cause of Alzheimer's disease remains unknown, it is widely accepted that the abnormal aggregation of proteins in the nervous system could be the primary cause resulting in this disease by damaging brain cells, and other risk factors also exist to increase the chances of having this disease such as ageing and a low education level. There are three possible distinct clinical phases in individuals with Alzheimer's disease pathology: asymptomatic, mild cognitive impairment and Alzheimer's disease. The symptoms of Alzheimer's disease progression worsen gradually over several years which generally involve memory loss, motor coordination problems and inability to perform routine daily tasks. Because Alzheimer's disease has a negative impact on not only the diagnosed patients but also their family members and the whole society, it is clear that treatment of this disease is required urgently. However, there is no current cure for Alzheimer's disease, but the symptoms can be managed and even moderated by a cohort of drugs as well as some protective factors. For example, aiming at various pathological symptoms of Alzheimer's disease, different drugs have been investigated to resolve specific problems, thus help to control and alleviate the symptoms such as memory loss. There are also studies that discover numerous protective factors, which can reduce the risk of developing Alzheimer's disease like a high education level and regular physical activities. Despite all the research and findings, the progress on Alzheimer's disease is slow, and the prevention method is yet to be found, which means more attention and effort is needed to find an effective cure for this disease.



Design of Chimeric Neuropeptide Analogues Based On Galanin and Substance P to Obtain a Possible Effect in the Treatment of Major Depressive Disorder

David Francisco Dávila Ortega

MSc. in Neurochemistry with Molecular Neurobiology, Stockholm University, Sweden

Abstract

Major Depressive Disorder (MDD) and anxiety are two of the principal psychiatric disorders that affect humans and whose treatment is under current investigation. There are vast amounts of brain neuropeptides, which show the potential of becoming unique therapeutic targets. Some studies have reported the effects of neuropeptide structural analogues on certain depression-like behaviors. Galanin (GAL) and substance P (SP) act as regulatory peptides that have been linked to several physiological functions, which include anxiolytic and antidepressant activities. These effects are mediated through G Protein-Coupled Receptors (GPCRs) displaying a diversity of signal transduction pathways.

In this project the design, synthesis and effects of several chimeric and non-chimeric analogues of the neuropeptides galanin and substance P are described. Four methods were used throughout the project: microwave-assisted Solid-Phase Synthesis (SPPS) to synthesize the chimeric analogues, High-Performance Liquid Chromatography (HPLC) to purify the crude molecules, Electrospray Ionization Mass Spectrometry (ESI-MS) to verify the theoretical molecular weight of the analogues and radioligand competition binding studies to assess the neuropharmacological activity of the ligands. Results showed some inconsistencies related to synthesis, purification and characterization of the ligands most likely due to technical and operational problems, so they cannot be taken as conclusive without further optimization of the techniques. After achieving optimization, the ligands tested might potentially work as therapeutic drugs for in vivo studies (using animal models) and hopefully even reach pre-clinical and clinical trials in the future.

Keywords

Galanin, Substance P, Major Depressive Disorder, Chimeric Neuropeptides, Drug Design



A New Avs –Cuv Criterion and a New Dopaminergic Hypothesis of Neuroleptic Malignant Syndrome (NMS)

A V Srinivasan

Emeritus Professor and Former Head and Prof. Neurology ,Institute of Neurology, Madras Medical college, India

Abstract

Aim:

To study the Clinical conundrum of NMS and to derive a new clinical criterion and a new Dopaminergic hypothesis Methods: Twenty Schizophrenics and Thirty Affective Disorder cases who developed NMS, were studied between 1990 and 2001 prospectively. Modified criteria of Keck was used for the diagnosis of NMS. Only patients who developed fever, altered sensorium, extrapyramidal and autonomic symptoms were included. Standard statistical analysis of the data which included Factor analysis Correlation analysis and Discriminate analysis were performed.

Summary of Results:

Mean age of onset in schizophrenia was 32 years (18-58yrs) and in Affective disorders was 43 years (15-73 yrs). NMS developed within 9 hours of starting therapy and lasted for a mean duration of 23 days. In the Affective Disorder group, NMS developed over a period 17 hours and lasted for a mean duration of 11 days. Fever occurred in all the cases and earlier in schizophrenia (11.9 hours) compared to Affective Disorders (16.8 hours). The altered sensorium occurred within 9.6 hours in schizophrenia and 25.69 hours in Affective disorder. The rigidity occurred in 38.8 hours in schizophrenia and 84.9 hours in Affective Disorder. Rigidity followed fever and altered sensorium in both the conditions. Autonomic symptoms occurred within 48 hours in schizophrenia and 107 hours in Affective disorder. The correlation analysis showed significant correlation between NMS onset with fever and altered sensorium. Cluster analysis indicated that autonomic and extrapyramidal symptoms cause for the evolution of NMS. The factor analysis of the parameter responsible for MNS in schizophrenics are extrapyramidal symptoms 0.913, autonomic symptoms 0.858, fever 0.779, altered sensorium 0.497, where as in Affective Disorders extrapyramidal symptoms 0.931, autonomous symptoms 0.955, fever 0.200, altered sensorium 0.181. Four patients died in schizophrenic group. Our discriminant analysis Autonomic symptoms (0.9), extrapyramidal symptoms (0.7), altered sensorium (0.6) and fever (0.3).

Discussion:

The misclassification rate in the case of Schizophrenia is 15% and Affective Disorder is around 7%. A new AVS –CUV Criterion; Clinically definite; Autonomic symptoms and signs, extrapyramidal symptoms, altered sensorium, fever. Clinically probable: Autonomic symptoms and signs, extrapyramidal symptoms. Clinically Possible: Altered sensorium with autonomic symptoms or extrapyramidal symptoms We propose that Cortex has predominantly TONIC (D1) receptors and Basal Ganglia has PHASIC (D2)Receptors This might plausibly explain the clinical conundrum of evolution and resolution of NMS.



Conclusion:

1) A New AVS- CUV criteria has been added to the world literature 2) TONIC release of Dopamine in cortex is predominantly D1 receptors and the PHASIC release from Basal Ganglia is predominantly D2 receptor

Biography:

After successfully completing the D.M. Neurology Examination in 1984, Dr. A.V. Srinivasan was posted in the Institute of Neurology to teach and train Post Graduate students in Psychiatry, Neuro surgery, and Physiotherapy, who are posted for Neurological Training. He served as Asst. Professor for six years under five eminent Neurologists (Prof. G. Arjundas, Prof. K. Jagannathan, Prof. Krishnamurthy Srinivas, Prof. Z.A. Sayeed, and Prof. C. U. Velmurugandran).

Under their guidance, he received the Best NeuroPsychological Paper in The Country Award in 1990. With his paper titled "Neuro Psychological Changes in The Elderly and Its Correlation to C.T. Scan Brain," Dr. A.V. Srinivasan became the only individual in the state to claim this award.



Multi-Functional Approach to Combat Experimental Sub-Acute Neurotoxicity Induced by Carbamate Pesticide

Shamsherjit Kaur

JCDM College of Pharmacy, Barnala Road, Sirsa, Haryana, India.

Dr. Atish Prakash

ISF College of Pharmacy, Ferozepur Road, NH 95, Ghal Kalan, Moga, Punjab, India.

Abstract

Carbamate insecticides edge to cause reversible inhibition of AChE and elicit cholinergic hyperstimulation. Therefore, the aim of the present study was to make a relative assessment of potential effects of cilnidipine (10mg/kg), grape seed extract (GS-ex; 100mg/kg) and nicorandil (3mg/kg), individually and in different combinations against Carbofuran-induced toxicity in Wistar rats. Carbofuran-induced neurotoxicity was induced by injecting carbofuran 1/10 LD₅₀, s.c., on alternate days up till 30 days. The drugs (cilnidipine, GS-ex and nicorandil) in combination and individually were administered 2 hours after Carbofuran exposure, respectively for 30 days. Different behavioural studies (Morris water maze, muscle strength, rotarod activity, actophotometer and narrow beam walking) were assessed at 0, 7th, 14th, 21st and 30th day, respectively and the biochemical estimations were carried on day 30th. The administration of carbofuran significantly impaired memory and learning, along with motor coordination and showed a marked increase in oxidative stress. The treated rats with cilnidipine, GS-ex and Nicorandil, significantly improved memory performance in behavioural studies and attenuated the oxidative damage in rats induced by Carbofuran. The maximum protective effect was observed in the rats treated with a combination of test drugs at the ratio 1:2:1 (cilnidipine: GS-ex: Nicorandil). The present study clearly highlights the neuroprotective effect of cilnidipine, GS-ex and Nicorandil against sub-acute carbofuran-induced neurotoxicity.



Contributing and Influencing Factors to Care on Cultural Scenes of People who Live with Stroke in Community, Indonesia

Agianto

School of Nursing, Faculty of Medicine, Universitas Lambung Mangkurat, Indonesia.

Abstract

The number of stroke was increase year by year in Indonesia, from 7 (2008) to 10.9 (2018) per 1000 population. Mortality, morbidity, complication, recurrent stroke, and quality of life happened in this case. It can impact to family and surrounding people in physical, psychological, social, spiritual, cultural, and other aspects. Health workers in community should identify the factors that influence and contribute the caring of stroke patients. However, these factors are necessary to choose the fit health treatments and nursing interventions during stroke care in community. The purpose of study was to explore the contributing and influencing factors to care on cultural scenes of people who live with stroke in community. A critical ethnography was employed in this study to describe and interpret how the behavior of people in Banjarmasin was influenced by the culture they live in. There were 64 key informants with purposive sampling until saturated data. Participant observation, in-depth interview, and FGD were used to gather the rich data with a structure interview guideline and observation sheet. Content analysis such as transcript, coding, typology, matrix analysis, and thematic analysis were used. There were eight themes of contributing and influencing factors to care people who live with stroke patients in community. They were traditional treatment, universal health coverage, transportation, financing, people involved, kind of health care services, daily food consumption, feeling stressful with stroke patients. Health workers especially nurses have to know and aware multi context to care the stroke patients and family in community.

Biography

Agianto, Ns., M.N.S., Ph.D. was born in Banjarmasin, August 18, 1982. He graduated for nursing diploma (2003) and bachelor of nursing (2008) in Indonesia. For master degree of nursing science (2013) and Ph.D. in nursing (2018) graduated from Khon Kaen University Thailand. He is a lecturer at School of Nursing, Faculty of Medicine Universitas Lambung Mangkurat and active in nursing



organization (Indonesian National Nurses Association) as vice chairman for research division in South Kalimantan province, Indonesia. He also helps some journals as a reviewer. Now, he is productive to write nursing books in Indonesia.



Indian Spices and their Possible Preventive Role against Alzheimer's Disease

Alok Sharma

Indo-Soviet Friendship (ISF) College of Pharmacy, Moga, India

Vineet Kumar Rai

Indo-Soviet Friendship (ISF) College of Pharmacy, Moga, India

Abstract

Spices as food adjuncts are in culinary use from ancient times. They possess a characteristic odor on virtue of the essential oil content, which also imparts some pharmacological properties to them. There are several published reports which scientifically prove the beneficial effects of spices in CNS ailments and a definite role in treating Alzheimer's disease. Due to the limited outcomes of existing treatments, the recent focus is heaved on the traditional herbal medicines. Because of lesser side effects and good availability, the herbal medicines are preferred as alternative treatments to the medical ailments; especially the spices have a vast role to play in curing some of the diseases effectively, as reported traditionally in South Asia. It is reasonable to assume that combination of compounds isolated from spices, in comparison to conventional therapy, may provide higher efficacy, lower toxicity, and lower drug resistance in the treatment of CNS disorders. Alzheimer's disease is became a major progressive neurodegenerative disorder. Modern medicines are having limited bioavailability so there is a thrust for novel therapeutics, for the Alzheimer's disease. To achieve these goals, Spices could be effective against Alzheimer's possibly due to their pleiotropic and multifaceted action. The present paper illustrates the therapeutic potential of Indian spices for the treatment of Alzheimer's disease.

Keywords

Indian Spices, Alzheimer's disease, antioxidants, anti-inflammatory, neuroprotective potential



Biography

Dr. Alok Sharma is currently working as Professor and Head at Department of Pharmacognosy, ISF College of Pharmacy, Punjab. He has total 15.6 years of industrial and research experience and worked in Dabur India Limited as Senior Scientist, R&D. He did his Doctorate from N. B. R. I. (CSIR) and Manipal University.

He did his Post doctorate from Institute of personalized Medicine (Med X Research Centre), Shanghai Jio Tong University, China where he has worked on computational approach of herbal medicine and Chinese medicines, drug combinations, in vivo and in vitro techniques etc.

Dr. Sharma has worked on various projects on herbal medicines, food and nutraceuticals funded by different agencies. Because of my interest in herbal drugs, potential, capabilities and dedication for the work, Dr.Sharma have worked on project entitles "Synergistic combinations of five single drugs from *Centella asiatica* for neuronal differentiation". The majority of his current research applies in herbal medicines and its experiments to test insights from classical to scientific contexts with innovative application His focused research areas are translation approach of herbal drugs, computational application, and label claim of herbal and food material and standardization of the herbal drug. He has published two patent (Indian) and two patents (China) have been filled. He is the life time member of many associations such as Indian Pharmaceutical Association, APTI, Indian Pharmacognosy society, Society of Ethnopharmacology, Pharmacovigilance society of India.

Dr. Sharma's lab (Pharmacognosy and Phytochemistry) is highly interdisciplinary and is always seeking skilled, motivated, and team-oriented.



Neuroscience Solutions for the BPO Industry

Ben Ampil

Managing Director of Amplus Management Consultancy based in Manila, Philippines.

Abstract

Outsourcing refers to the practice of outsourcing Non-Core Business functions of an Organization to 3rd Party Business Process Outsourcing (BPO) Service Providers. The Outsourcing Industry is one of the fastest growth industries in the World, with an average annual expansion rate of 20%. And the Philippines is among the top countries of choice where BPO Service Providers locate. Its contribution to the Philippine GDP is approximately 19% in 2018 and it is the Philippines' 2nd largest net foreign exchange earner and is the country's most important generator of jobs.

Its workforce is dominated by Millennials whose office hours adjust to the time of the Clients (so Philippine BPOs catering to American Clients work from 8pm to 12noon). This promotes a lifestyle rooted on insufficient sleep, lack of exercise, and a diet that thrives on coffee and fast foods. Work is intensely stressful as strict compliance to Performance Metrics and Service Level Agreements are demanded.

BPOs traditionally resort to providing non-monetary benefits such as regular special events, game rooms, and weekly massages in order to retain their people. But "Worker Attrition" remains as its primary challenge, with an average 30% of its people leaving before their 6th month of employment.

Neuroscience Concepts which contradict prevalent industry practices have successfully lowered Worker Attrition among my BPO Clients. Using Lectures and Demonstrations, Coaching and Mentoring, Key Performance Metrics have been met through solutions which give rise to the optimal mix of the "DNA of Achievement", namely; Dopamine, Noradrenaline, and Acetylcholine. As a result, emotions have been regulated, focus has been sharpened, learning has been optimized, and a culture of trust has been established. And analysis of field data reveals not that only has Worker Attrition gone down, but "Average Handling Time" (the time it takes to complete a Phone Conversation) has also decreased.

Biography

Ben is a US-Certified Neuroscience Coach as well as a Neuro-Linguistic Programming (NLP) Master Practitioner.

He is the Managing Director of Amplus Management Consultancy based in Manila, Philippines. His firm provides services in the areas of Management Consultancy, Training, Organizational Development, and Market Research. He graduated with a degree in Engineering from the University of the Philippines. Ben then proceeded to earn a Master of Business Administration (MBA) degree from the same university, and a Master of Science in Industrial Economics from the University of Asia and the Pacific.

He has had an extensive Corporate Career in the different Functional Disciplines of General Management in a variety of Industries, such as Manufacturing, Sales & Marketing, Property



Management and Development, Strategic Consultancy, and in a conglomerate involved in Shipping, Manning, and Business Process Outsourcing.

Ben combines Science with Management Theory and actual Corporate Experience to design novel solutions to Organizational challenges.



Immediate Healing For Personality Development

Dr. Hadi Eltonsi

Cairo University Medical College, Egypt

Abstract

Statement of the problem:

Clients receiving psychotherapy require several sessions even if with drugs and use of will power over time. Purpose of the treatment: Achieving immediate non medicinal effortless painless healing without complications For personality development , relief of neurotic disease, psychosomatic symptoms and diseases, treating emotional obesity and smoking.

Method:

After joint analysis with Client and definition of psychological and physical goals of treatment, the healer as a trained behavioral, cognitive and logo psychotherapist arrives with client to a new corrected understanding of the case and roots of conflicts in childhood, taking around 2 hours, then in less than an hour performs non verbal interpersonal hypnosis with transfer of energy and telepathy to client till deep sleep when he implants the required personality , ideas, emotions, motives and attitudes into the subconscious embodying the required state.

The subconscious and conscious mind will have same agreed upon analysis and targets for immediate results in that session of 3 hours

Results:

The healer got patent in Egypt 2016 for his discovery of The Immediate Healing for Personality Development and for mentioned purposes. Up till now treating more than 700 cases aging between 12 and 80 years with relief of more than 80% of cases either totally or mostly.

Conclusion: immediate non medicinal revolutionary life transforming healing for a wide spectrum of cases achieving higher grades of maturity, insight, harmony and efficiency saving client time, effort, interests and complications. Also used to maturate community leaders to be a trouble shooter model efficient leaders with team spirit.

Biography

Dr Hadi Eltonsi a medical graduate trained in group psychotherapy , hypnosis, silva mind control, NLP, Reiki Master, Pranic Healing, Life Couch, Mantra Yuga meditation among others courses for psychic powers, family constellation thru his medical study and practice then as a diplomat and Ambassador. He performed many TV , Radio interviews and seminars apart of two short American films about his work or inspired by his skills which were shown in international film festivals, the second got an award in Venice 2017.



Micro-Needle Array: 3rd Generation Approach of Transdermal Drug Delivery for Neurological Disorders

Dr. Vineet Kumar Rai

Associate professor, ISF College of Pharmacy, Moga, Punjab, India

Alok Sharma

ISF College of Pharmacy, Moga, Punjab, India

Abstract

Transdermal drug delivery systems have widely been investigated to deliver drugs meant for the management of neurological disorders. However, these systems have their own limitations like restricted active diffusion through the skin, inefficiency in delivering molecules of high molecular weight and hydrophilic molecules and therefore, very few products are available in the market. Currently pain free, micro-needle array techniques i.e. third generation transdermal patches come to the fore and these are meant for delivering transdermal delivery of any kind of molecules directly beneath the skin. The development of micro-needle has become an area of active research now. Micro-needles of Donepezil for Alzheimer's, dihydroergotamine mesylate, zolmitriptan and sumatriptan for migraine headache, CGRP antagonist peptide for neuropathic pain management are some of the current investigations. Literature suggests immense potential of these systems in the management of neurological disorders as these are being used as the alternative to the hypodermic needles now. Therefore, extending knowledge about the development procedure, optimization of needle size, method of drug release (ionic, biodegradation, or pressure mediated), and scalability for bulk production could place these carriers from laboratory to industrial level. Here we highlight the progressive advancement in the delivery of drugs through micro-needles with special reference to the neurological disorders. It is attempted to explore the most suitable type of micro-needle for the delivery of drugs with different physicochemical properties. Basic principles and fundamental considerations in drug delivery through micro-needles are also highlighted.

Keywords

Neurological disorders, neuropathic pain, micro-needle array, drug delivery, formulation development.



Regenerage System: Therapeutic Effects of Combinatorial Biologics (Mrna and Allogenic Mscs) With a Spinal Cord Stimulation System on a Patient with Spinal Cord Section

Dr. Joel I. Osorio

Westhill University School of Medicine, Mexico

Sergei Paylian

Westhill University School of Medicine, Mexico

Dr. Ale Ismael Gonzalez Cazares

Westhill University School of Medicine, Mexico

Abstract

As it has been previously demonstrated that coelectroporation of *Xenopus laevis* frog oocytes with normal cells and cancerous cell lines induces the expression of pluripotency markers and in experimental murine model studies that mRNA extract (Bioquantine[®]) purified from intra and extra-oocyte liquid phases of electroporated oocytes) showed potential as a treatment for a wide range of conditions, including Spinal Cord Injury (SCI) among others. The current study observed beneficial changes with Bioquantine[®] administration in a patient with a severe SCI. Pluripotent stem cells have therapeutic and regenerative potential in clinical situations CNS disorders even cancer. One method of reprogramming somatic cells into pluripotent stem cells is to expose them to extracts prepared from *Xenopus laevis* oocytes. The positive human findings for spinal cord injury with the results from previous animal studies with experimental models of traumatic brain injury and SCI respectively as our evidence and due to ethical reasons, legal restrictions and a limited number of patients, we were able to treat only a very small number of patients, deciding to include in our protocol the RestoreSensor SureScan to complete it. Based on the electrical stimulation for rehabilitation and regeneration after spinal cord injury published by Hamid and MacEwan, we designed an improved delivery method for the in-situ application of MSCs and Bioquantine[®] in combination with the RestoreSensor[®] SureScan[®]. To the present day the patient who suffered a complete section of spinal cord at T12-L1 shows an improvement in sensitivity, strength in striated muscle and smooth muscle connection, 13 months after the first treatment and 6 months after the placement of RestoreSensor[®] at the level of the lesion,



showing an evident improvement on his therapy of physical rehabilitation (legs movement) on crawling forward and backwards and standing on his feet for the first time and showing a progressively important functionality on both limbs.

Biography

CEO and Founder of Biotechnology and Regenerative Medicine at RegenerAge International TM (www.regenerage.clinic). Vice President of International Clinical Development for Bioquark, Inc. (www.bioquark.com) and Chief Clinical Officer at ReAnimaTM Advanced Biosciences (www.reanima.tech). Advance Fellow by the American Board of Anti-Aging and Regenerative Medicine (A4M), Visiting Scholar at University of North Carolina at Chapel Hill (Dermatology). Fellow in Stem Cell Medicine by the American Academy of Anti-Aging Medicine and University of South Florida.



Surgical Outcome of Late Presented Cauda Equina Syndrome: Experience of 15 Cases in Bangladesh

Md Mahfuzur Rahman

National Institute of Neurosciences & Hospital, Dhaka, Bangladesh

Abstract

Objective:

The purpose of this study was to find out the surgical outcome of Cauda Equina syndrome patients presented in the late of the course of disease.

Methodology:

This non-randomized, multi-centre, prospective clinical trial was performed in the Department of Neurotrauma at National Institute of Neurosciences & Hospital, Dhaka, Bangladesh during January 2014 to December 2018. All clinically diagnosed Cauda Equina Syndrome (CES) patients attended as late presentation both male and female who were confirmed by MRI scan were selected as the study population. The procedure of the study was interspinous decompression by bilateral wide fenestration, discectomy and foramenotomy. The average follow-up was 30 months, ranging from 10 to 50 months. Anal wink was a predictor of bowel recovery. Visual Analogue Scale (VAS) score and Oswestry Disability Index (ODI) questionnaire were used to evaluate surgical outcomes. Data were analyzed by Statistical Package for Social Sciences (SPSS) version 22 (Texas, USA). The pvalue less than 0.05 was taken as statistically significant. Chi-square test was performed to measure the level of significance between qualitative variables.

Results:

A total number of 15 patients were recruited in this study. Patients came within 5 (days n=3), 10 to 15 days (n=6), 15 to 20 days (n=5) and within 1 month (n=1). All of them presented late with mean delay of 15 days. There were 12 males and 3 females with average age of 45 years ranging from 30 to 60 years. The outcome of the surgery showed that 3 patients improved just after surgery; however, patients improved within 1 month (n=6), three months after surgery (n=5). No improvement was reported in bowel and bladder incontinence in 1 patient who was underwent surgical intervention after 1 month except sciatic pain. Out of 12 males, erectile dysfunction was complete and partially improved



in 9 patients and 2 patients respectively; however, 1 patient had no change. At final follow-up the pre- and postoperative mean of VAS score with SD were 6.0 ± 2.4 and 1.4 ± 1.0 respectively ($P < 0.001$); furthermore, ODI was $74\% \pm 24\%$ preoperatively, while it becomes $27\% \pm 15\%$ postoperatively at last follow-up ($P < 0.001$). Anal wink as a predictor of bowel recovery also showed statistical significance, as patients with an absence had a poorer prognosis for bladder recovery. There was a statistically significant positive correlation between duration taken for total recovery and delay in surgery.

Conclusions:

The surgical outcome of Cauda Equina syndrome patients presented in the late of the course of disease are significantly improved after surgical intervention.

Keywords

Cauda Equina; Delayed presentation; Anal wink; Bladder and bowel recovery

Biography

Dr Md Mahfuzur Rahman is a well-known neurosurgeon in Bangladesh who obtained his highest degree (Masters of Surgery) from Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh and has been working in the field of neurosurgery for over a decade. At present he works as an assistant professor in the neurotrauma department of National Institute of Neuroscience & Hospital, Dhaka, Bangladesh. He loves to spend time with nature and serve people throughout his area of study.



Neural Parameters of Therapeutic Change in Interpersonal Treatment for Borderline Personality Disorder: fMRI study

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Abstract

Despite better characterization of neural deficits mediating symptoms expression in borderline personality disorder, neural mechanisms driving treatment-induced symptoms recovery remain poorly understood. Faulty brain activity (midline cortical areas) involved in personal identity, autobiographical memories and self-66 domains have been identified as treatment candidates for psychotherapy. Herein, the current study evaluates the effects of a combined therapy comprising interpersonal psychotherapy adapted to BPD (IPT-BPD) and valproic acid versus Clinical Management (CM) and valproic acid on brain areas in patients with BPD using 3T fMRI. Treatment-induced brain alterations were identified in prefrontal areas including dorsolateral prefrontal cortex and the anterior cingulate cortex. Thus, interpersonal psychotherapy seems to achieve its therapeutic effect on the neural level through a better recruitment of frontal brain regions involved in regulatory and inhibitory processes over elevated limbic activity in emotional processing. Delineating neural mechanisms mediating recovery from a psychiatric disorder holds promise for developing and refining treatment modalities tailored to address specific areas of borderline pathology.



Biography

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Molecular Indicators of Stress-Induced Neuroinflammation in a Mouse Model Simulating Features of Post-Traumatic Stress Disorder

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Abstract

A social-stress mouse model was used to simulate features of Post-Traumatic Stress Disorder (PTSD). The model involved exposure of an intruder (male C57BL/6) mouse to a resident aggressor (male SJL) mouse for 5 or 10 consecutive days. Transcriptome changes in brain regions (hippocampus, amygdala, medial prefrontal cortex and hemibrain), blood and spleen as well as epigenome changes in the hemibrain were assayed after 1- and 10-day intervals following the 5-day trauma or after 1- and 42-day intervals following the 10-day trauma. Analyses of differentially expressed genes (common among brain, blood and spleen) and differentially methylated promoter regions revealed that neurogenesis and synaptic plasticity pathways were activated during the early responses but were inhibited after the later post-trauma intervals. However, inflammatory pathways were activated throughout the observation periods, except in the amygdala in which they were inhibited only at the later post-trauma intervals. Phenotypically, inhibition of neurogenesis was corroborated by impaired Y-maze behavioral responses. Sustained neuroinflammation appears to drive the development and maintenance of behavioral manifestations of PTSD, potentially via its inhibitory effect on neurogenesis



and synaptic plasticity. By contrast, peripheral inflammation seems to be directly responsible for tissue damage underpinning somatic comorbid pathologies. Identification of overlapping, differentially regulated genes and pathways between blood and brain suggests that blood could be a useful and accessible brain surrogate specimen for clinical translation.



Malignant Pathology of Brain Meningioma Tumor as the Best Predictor for Mortality and Recurrency Rate of Meningioma

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Bioinformatics, Study manager, Iran

Abstract

We studied on meningioma among 614 patients with Brain tumor (consists of meningioma, glioma and pituitary tumor). 145 patients had meningioma. Our results are in various topics:

1. Clinical features of meningioma
2. Anatomical distribution
3. Radiation induced meningioma
4. Meningioma and foster Kennedy syndrome
5. Meningioma and pseudo foster Kennedy syndrome
6. Multiple meningioma
7. Post traumatic and skull fracture meningioma
8. Cutaneous meningioma
9. Meningioma and DVT
10. Trigeminal neuralgia and meningioma
11. Recurrent meningioma
12. Meningioma mortality rate

And some others.

We are going on to continue this study. This research project has been held in neurosurgery ward Shariati Hospital and had been scientifically registered.

We studied during 6 years on meningioma patients to find the risk factors for meningioma recurrence as well as answer to these questions:

1. What is the recurrence rate of meningioma?
2. Which anatomical locations are more prevalent for overall recurrency?
3. What is tumor specific recurrence rate according to anatomical location?
4. How long does it take after meningioma surgery till tumor recurrence?
5. Are age and gender determining factors for meningioma recurrency?
6. The correlation between meningioma cellular pathology and recurrency?
7. Is mortality rate of recurrent meningioma more than primary tumor?

We found that 20.7% of all patients with meningioma recur after 4.6 years after surgery. Female to male ratio was 1.72 among recurrent tumors with no significant difference with this ratio among all meningioma study sample was 1.96 but it seems recurrence rate is more among men.

The more prevalent anatomical location for overall recurrency were:

1. Convexity: 43.3%
2. Parasagittal: 26.7%
3. Sphenoid wing: 16.7%



Tumor specific recurrence rate:

1. Parasagittal: 42%
2. Tentorial: 33.3 %
3. Convexity: 27.6%

Tumor specific mortality rate:

1. C-P Angle: 33.3%
2. Petroclival: 25%
3. Sphenoid wing = Convexity: 16.7%

Mortality rate among recurrent meningioma patients is 13.3% in compare with primary meningioma patients' mortality rate that was 6.9%, is approximately 2 times more. 75% of recurrent tumors with mortality were malignance meningioma pathologically or anaplastic meningioma, it shows that cellular malignance pathology has an important role for meningioma mortality and recurrency. We dedicate with honor the surgical procedures in details, follow up outcomes, history of radiotherapy and cellular pathology at oral presentation time.



Artificial Intelligence Based Facial Recognition for Mood Charting among Men on Life Style Modification and it's Correlation With Cortisol

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Abstract

It is known that chronic stress causes chronic neurological disorders. Concerned about the growing mental health issue in India, NIMHANS was appointed by Govt of India's health ministry to study the mental health status of the country in 2014 to develop stronger mental health policies. A nationwide study by NIMHANS shows a shocking prevalence of mental illness in India. It has been projected that at least 13.7% of the general population of India have a range of mental health conditions, and 10.6% require immediate action. New endeavors to use high - performance technology of artificial intelligence to support people in various conditions of mental health. Talk to a machine or screen instead of a doctor? Apps – user-friendly computer applications – that run on personal computers and cell phones are already making it possible, on an experimental basis, for people with clinical depression to interact with AI-powered screen interfaces whenever they feel down or anxious or isolated . One, called Woebot and featured in the article, asks the user a series of questions about “what is happening in his life this day and how he is feeling.” In an exchange that takes a few minutes per session, the program behind the app analyzes the way the patient frames his replies “and provides coping strategies drawn from cognitive behavior therapy .” Assessment and early detection of mood disorders is difficult to assess through conventional methods as it involves: i. Answering questionnaires. (Cons: might not be accurate as the chances of subject masking the real feeling is high)ii. Personal interaction with psychiatrist/ psychologist/ general physician. (Cons: (subjective bias) personal interaction is time consuming and assessment depends on the skill level of the psychiatrist/ psychologist/ general physician and involves human error makes it hard to normalize. And it's hard to lure the patient to early assessments to the psychiatrist/ psychologist/ general physician.)iii. Salivary cortisol assessment. (Cons: subjected to biological rhythm and varies with various inflammatory/ systemic health disorders. It's a special investigation and needs a special setup to analyse and expensive). So an artificial neural network model to assess the mood state spectrum (anxiety/ depression level) of person based on images acquired on Smartphone or smart mobile devices can be effective in accessing mood and early detection of anomalies in mood.



The Effects of Cuminum Cyminum on Memory Ischemia Induced in Rat

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Iran

Abstract

Background and Aim:

Cerebral ischemia causes impairment in LTP induction through oxidative stress, lipid peroxidation and neuronal damage in hippocampus, which could lead to memory impairment. α-terpineol is a monoterpene alcohol with antioxidant, anti-inflammatory and acetylcholinesterase inhibitory properties. The aim of this study was to investigate the protective effect of Cuminum cyminum against memory impairment following cerebral ischemia in rat.

Methods:

In order to produce ischemia, the method of blocking the common carotid arteries of male rats for 20 minutes was used. Animals were divided into five groups: control of ischemia, sham and treatment with (25, 50, 100 mg / kg, i.p) Cuminum cyminum. The treatment was followed by ischemia within seven days (once a day). The level of malondialdehyde was investigated.

Results:

The statistical analysis performed on the results of three days of the experiment showed that the time of finding the platform in the sham group was significantly less than the time of finding the platform location in the control group ($P < 0.05$). A statistical analysis of the results of three days of learning of the treatment groups shows a significant therapeutic effect between the different groups. Figure 1-3 shows a decrease in the mean time needed to find the hidden platform in the group of animals treated with Cuminum cyminum compared to the control group. The distance traveled in the target quadrant was significantly increased by the dose group (Cuminum cyminum 100 mg / kg) and sham group compared with the control group ($P < 0.05$). The duration of presence in the target quadrant was significantly increased by the dose group (Cuminum cyminum 100 mg / kg) and sham group compared to the control group ($P < 0.01$). The number of crossing points was significantly increased by the group receiving the dose (Cuminum cyminum 100 mg / kg) and sham group in comparison with the control group ($P < 0.05$). Mean average speed, for all groups receiving different doses of Cuminum cyminum, none of the groups and sham group had a significant difference compared to the control group. The biochemical measurement of malondialdehyde (MDA) was used as an indicator of peroxidation of membrane fats in the hippocampus. The MDA values measured in the control group showed a significant increase compared to the sham group ($P < 0.001$). The MDA levels measured in the doses of α-Cuminum cyminum 100 (50 mg / kg) compared with the control group significantly decreased ($P < 0.05$). However, the MDA level measured in the dosing group Cuminum cyminum 25 mg / kg) was not significantly different in comparison with the control group.



Conclusion:

These findings indicate that *Cuminum cyminum* can improve memory impairment following cerebral ischemia in rats through suppression of lipid peroxidation and oxidative stress and protection of CA1 neurons of the hippocampus, which behavioral results confirm these results.

Keywords

Cerebral ischemia, *Cuminum cyminum*, Malondialdehyde, Catalase



Implementing Positive Risk-Taking

Steve Morgan

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Abstract

Do we pay enough attention to the impact that the language we use has on the people we serve, and the ways in which we serve them? Our adherence to professional jargon more often serves to exclude and/or confuse other people. This is most notable in the language of risk, particularly where the negative connotations can often drive a blame culture and promote an unnecessary risk averse approach. Where is the person within such a picture?

Assessing and managing risk is an essential skill; but, so too is calculated and reasoned risk-taking. My concept of 'Positive Risk-Taking', initiated in 1994, brings the language of risk, strengths and person-centred outcomes together in a clear and sharp focus. As a concept, it is underpinned by the principles and practice of good risk assessment and management, applicable to all facets of mental health, wider health, and social care considerations.

The concept is focused on the outcomes, rather than solely being led by the risks. Taking risks for positive outcomes requires a clear definition and description; but, it is also underpinned by the fully recognized components of mental health good practice... focused and contextualized risk assessment is counter-balanced by a full strengths assessment; supervision and support is complemented by teamwork and team-focused training. Collective decision-making enables balanced and reasoned risk-taking decisions to be made with confidence, and the identification of individual responsibilities for action to be outlined within a thoughtful plan.

Keywords

Positive Outcomes, Positive Risk-Taking, Risk Decision-Making, Taking Risks



Biography

Steve Morgan attained a Diploma in Occupational Therapy at Oxford in 1986, and an MA in Practice Development at Middlesex University in 1998. He worked as a clinician in ward and community settings, and also as a trainer for the Sainsbury Centre for Mental Health. In October 2001 he established his own independent consultancy, Practice Based Evidence, and continues to provide practice development, service review and training services. He has also worked as a case manager since 2013 for people experiencing Acquired Brain Injury. He has over 60 publications, including textbooks, practice & training manuals, and journal articles



Investigations of Thiolated Chitosan for Intranasal Delivery of Sumatriptan Succinate for Migraine

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Abstract

Traditionally nasal route has been used for delivery of drugs for local treatment of diseases like nasal congestion, allergy conditions. Nasal route has been recognized as important route for systemic delivery of neurological drugs due to favorable anatomical and physiological characteristics of nasal mucosa. From natural and synthetic polymers, Chitosans (Ch) have been widely studied as drug carrier for nose to brain delivery utilizing olfactory pathway. However, Ch has pH dependent solubility limitation, which restricts its applications of drug delivery via intra-nasal route. In linked with this of derivatized Ch, thiolated Ch has gained popularity due to their pH independent solubility and higher permeation enhancing characteristics. Nose to brain delivery of nanoparticulates loaded with drugs of low partition co-efficient utilizing olfactory pathway has emerged as an alternative to IV delivery of drug for increasing their brain uptake by overcoming P-GP efflux and also protects drugs from enzymatic degradation. Hence there is a need to develop a potential carrier system for intranasal delivery of hydrophilic drugs which will overcome the limitations of intranasal delivery. The study is focused on the evaluation of the bioadhesive behavior of Ch and thiolated Ch in nasal delivery & enhancement of transport of Sumatriptan for migraine.



Association of Menstrual Disorders with Migraine in Women

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Abstract

Objective:

Migraine is a common disorder characterized from moderate to severe headache which can be seen in approximately 18% of the women's population. The highest prevalence of this disorder has been reported vastly in the women aged 18-49 years, since they are in the menstrual period ages.

Methods:

We conducted a questionnaire from 174 women referring to a neurological clinic. We divided them into two groups, including 86 women as a case group who were suffering from migraine, and 88 women diagnosed without any episode of migraine. Demographic information such as past medical history, drug history, information related to menstrual periods and headaches was recorded.

Results:

Duration of time between menstrual periods was significantly lower in case group compared to the control group ($P=0.020$). Meanwhile the proportion of women with menstrual period less than 24 days in case group was 25.6% vs. 10.1% in the control. Although there was a significant statistical difference in the menstrual cycle length of both groups ($p=0.025$), one of the efficient variables involved in getting migraine was period durations. It was indicated the chance of getting migraine among the women with the period duration between 4-8 days was 82%, which is less than the women with shorter intervals, less than 4 days ($OR=0.18$, $p=0.006$). In addition, the chance of women with more than 8 days' menstrual duration was decreased up to 86% ($OR=0.14$, $p=0.041$).

Conclusion:

As we found out from this study, the variables associated with menstrual disturbances could not affect the severity and duration of headaches.

Keywords

Migraine, Menstrual disorders, women



Biography

I am medical graduated from Shahid Beheshti University of medical science. I am interested in medical researching specially with the focus on neuroscience and neurology. Now I'm going to become ready for USMLE exam and wish to become a neurologist.

