



International Conference on
Chronic Diseases
&
6th International Conference on
Microbial Physiology and Genomics
August 31-September 01, 2017 Brussels, Belgium

Scientific Tracks & Abstracts Day 1

Chronic Diseases & Microbial Physiology 2017

Sessions

Day 1 August 31, 2017

Dementia | Cirrhosis of the Liver | Cardiovascular diseases | Obesity | Autoimmune diseases

Session Chair

Sergio Mejia Viana

St Bernard Hospital, Gibraltar, Spain

Session Introduction

Title: Postoperative Issues in Patients with Chronic Diseases

Amballur D. John, Johns Hopkins University, USA

Title: Preparation for precision medicine: International data sharing practice of two Chinese national data sharing platforms

Jian Guan, PUMC Hospital, China

Title: The risk chart for detection of Dementia individual risk: First step for a personalized prevention protocol

Federico Licastro, University of Bologna, Italy

Title: Human herpes virus in patients with cirrhosis

Cheng-Chuan Su, Tzu Chi University, Taiwan

Title: Development of Quality of Life questionnaire in Stroke patients, Health region 4, Thailand

Ananya Manit, King Narai Hospital, Thailand

Title: Heavy metals and atherosclerosis; it is time to start talking about new risk factors

Sergio Mejia Viana, St Bernard Hospital, Gibraltar, Spain

Title: Association of FTO and IRX3 genetic variants to obesity risk in north India

Neena Srivastava, King George Medical University, India

Title: Diagnostic Challenges in Systemic Lupus Erythematosus and Antiphospholipid Syndrome

Ljudmila Stojanovich, Belgrade University, Serbia

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Postoperative issues in patients with chronic diseases

Amballur David John

Johns Hopkins School of Medicine, USA

The management of patients with chronic diseases represents one of the fundamental challenges of modern medicine. The range of acute processes that become chronic diseases is enormous and includes cardiovascular; cerebrovascular; respiratory – asthma, COPD, ILD; endocrine diabetes, thyroid disorders, adrenal disorders, metabolic disorders; infectious – viral, HIV, fungal; hematological – anemia, cancer; psychiatric, and neurodegenerative. Surgery represents an acute process and sudden insult onto the baseline of chronic disease which specialists have extended a dedicated, deliberative effort in order to maintain a balanced homeostatic state for the patient. Once surgery with its concomitant trauma and stress occurs, how does one best address the acute postoperative issues involved and return patients to their fundamental underlying homeostatic state. This represents an important challenge in the postoperative period.

Biography

Amballur David John is currently an Assistant Professor of Anesthesiology and Critical Care Medicine and; Director of Student Education, Department of Anesthesia at Johns Hopkins Bayview Medical Center, Baltimore, USA. He completed his BA at Harvard University and MD at New York Medical College, USA. He completed his Internal Medicine Residency at Metro West Medical Center; Anesthesiology and Critical Care Medicine Residency at Johns Hopkins Hospital and; his Fellowship in Cardiac Anesthesiology at Johns Hopkins Hospital. He is a top Anesthesiologist in Baltimore, Maryland. He has been selected as a top Doctor and is a member of Leading Physicians of the World, being recognized for his experience, compassion and medical contributions. His research interest includes Critical Care, Anesthesiology, Pain Management, Internist and Obstetrician-Gynecologist.

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Preparation for precision medicine: International data sharing practice of two Chinese national data sharing platforms

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Advances in genome sequencing together with big data analytic tools lead to the introduction of precision medicine particularly in the field of oncology. To turn this promise into reality will require establishing a relationship between phenotype data in EHRs, and genetic and expression data at the “omics” level in large scale, through computational frameworks, enables the ability to clarify disease mechanisms in unprecedented detail; require individuals who will contribute extensive amounts of medical, genetic, genomic, behavioral, phenotypic and biomarkers data, as well as lifestyle and other personal information. Thus, this requires one of the main sources of ethical, legal and social concerns regarding personalized medicine. In addition, data sharing at the patient-level is a potential financial pathway to obtain big data in healthcare. However, it is difficult to share high-level data in practice. How to establish continued collaboration and long-term data sharing remains unknown. We explore international collaboration of data sharing and propose potential governing principles and key features for a managing system of expanded access to patient-level data after reviewing the practice of operating national data sharing platforms. During the practice, we established win-win data sharing principles and regulation with legal and ethical considerations. Under these principles, data sharing is conditional, and data providers are paid for data sharing and transfers. Those who provide data that is shared in the platform should be fairly compensated when others use the data and derive financial value from that usage, or offer other benefits for the sharing data (shown in Figure 1). In addition, based on the special data sharing platform on oncology, the International Data Sharing and Mining Cooperating Group for Translational Oncology (IDSMC Group) has been organized. The author believes that this collaboration will be of benefit for cancer patients around the world.

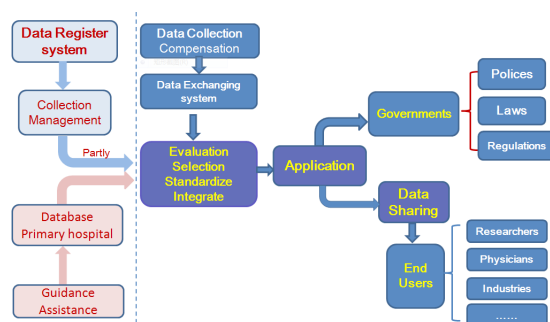


Figure 1 Here shows three data collection pathways for sharing. The two pathways left of the dotted line were under the win-win principle, data shared with little financial compensation, or not paid.

Biography

Jian Guan completed her Doctor of Medicine at Peking Union Medical College (PUMC), China in 2001 and; Post-doctoral research work at Law Institute of Chinese Academy of Social Sciences in 2012. Currently, she is a Professor of Management, Associate Professor of Pathology, and a Lawyer. She has her expertise in “Big data healthcare and molecular pathology, medical law and ethics”. She is the Vice Executive Director of Clinical Data Centre, National Population and Health Scientific Data Sharing Platform (National Program) and; PI of the International Data Sharing Platform on Translational Oncology (National Program). She is familiar with molecular diagnosis and therapy of oncology. She is Managing Editor of *Frontiers in Bioscience*.

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The risk chart for detection of dementia individual risk: First step for a personalized prevention protocol

Federico Licastro, Elisa Porcellini, Massimo Buscema and Enzo Grossi
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Sporadic Alzheimer's disease (AD) is a progressive degenerative dementia with a senile onset. The AD aetiology is still unclear and the pathogenesis of the disease is likely to be multi-factorial. No medication for the disease is available and dementia is becoming a world-wide medical and social emergency. During last 10 years, we collected large data base focused on risk factors associated with cognitive decline and dementia from several case control studies and longitudinal population investigations. Several new factors associated with an increased risk of developing dementia as assessed by innovative statistical analysis derived from neural network algorithms and applied our data bases. A new risk chart derived by our previous investigations to assess the individual risk of developing cognitive decline and/or dementia in healthy subjects with positive familiarity for AD is presented. This chart is also useful to assess dementia risk in patients with previous traumatic brain injury, Parkinson disease, post brain stroke or Down's syndrome. This new risk chart consists of several and diverse variables. Familiarity, APOE genotype, diabetes, plasma lipid profiles, plasma homocysteine, blood vitamin B12 and folates, plasma CRP levels plasma antibody titers against virus of the Herpes family, antibody levels specific for *Helicobacter pylori*, and presence of periodontitis are major components of the chart. The differential presence of the above variables will result in an individual risk score computed in three different risk levels for cognitive decline or dementia. Impaired levels of most variables can be changed with nutritional or other therapeutic interventions with the aim of decreasing individual risk level for the disease. The goal of this approach is to introduce new personalized therapy for healthy elderly or old person with mild cognitive impairment. This chart is aimed to decrease prevalence and incidence of dementia by a preventive personalized medical approach.

Biography

Federico Licastro completed his Degree in Medicine at University of Bologna in 1977 and; Specialization in Pediatrics in 1980. He was an Assistant Professor of General Pathology at Institute of General Pathology, Faculty of Medicine, University of Bologna in 1980 and; Associate Professor of General Pathology at Institute of General Pathology, Faculty of Medicine, University of Bologna in 1984. Currently, he is an Associate Professor of Immunology in Department of Experimental Pathology, University of Bologna. He is an author and co-author of 254 scientific articles.

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Human herpes virus type 8 in patients with cirrhosis

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To date, human herpesvirus type 8 (HHV-8) DNA has been found consistently in all types of Kaposi's sarcoma (KS). This neoplasm occasionally develops in human immunodeficiency virus (HIV) non-infected patients with variable immunologic abnormalities. Immunologic abnormalities have been documented in cirrhotic patients and are strongly associated with cirrhosis severity. In a previous study, our study group found that the seroprevalence of HHV-8 in patients with moderate or severe cirrhosis was significantly greater than that in healthy controls. It appeared to be associated with cirrhosis severity, sex, and disease etiologies. However, the prevalence of HHV-8 infection in patients with mild cirrhosis has not been described, and it is not clear whether HHV-8 prevalence is associated with hepatitis activity. Our recent study found that patients with mild cirrhosis had higher seropositivity for KSHV antibodies than healthy controls ($P=0.0001$). Univariate logistic regression analysis revealed that an age ≥ 55 years (odds ratio [OR] 2.88, $P=0.02$), hepatitis C virus (HCV) infection (OR 3.42, $P=0.01$), and hepatitis activity (OR 4.10, $P=0.004$) were associated with KSHV seropositivity in mild cirrhotic. Stepwise multivariate logistic regression analysis confirmed that age ≥ 55 years (adjusted OR [aOR] 1.92, $P=0.04$) and hepatitis activity (aOR 3.55, $P=0.005$) were independent factors. The rate of hepatitis activity was higher in HCV-infected than in HBV-infected patients ($P<0.0001$) and in women than in men ($P=0.0001$). Mild cirrhotic who were seropositive for KSHV or HCV or had hepatitis activity were significantly older ($P=0.02$, <0.0001 , and <0.0001 , respectively). Plasma samples from all participants were negative for KSHV DNA. KSHV antibody titers in mild cirrhotics also markedly exceeded those in controls ($P<0.0001$), as in patients ≥ 55 years old vs. younger patients ($P=0.01$), those in patients with vs. without HCV-infection ($P=0.0008$), and those in patients with vs. without hepatitis activity ($P=0.0005$). Patients with mild cirrhosis had high KSHV seroprevalence and HCV infection, and, in particular, old age and hepatitis activity were predictors.

Biography

Cheng-Chuan Su has completed residency training in Anatomic Pathology at the age of 31 years and in Clinical Pathology two years later; and obtained the Master degree from the Institute of Biomedical Engineering, National Cheng Kung University, Taiwan when he was 32 years old. At present, he is the Medical Director of Department of Clinical Pathology and the Attending Physician of Department of Anatomic Pathology, Buddhist Dalin Tzu Chi Hospital, and the Professor of Departments of Laboratory Medicine and Pathology, Tzu Chi University, Taiwan. He has published more than 40 papers in reputed journals and has been serving as an editorial board member of reputed journals.

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Development of quality of life questionnaire in stroke patients, Health region 4, Thailand

Ananya Manit¹, Kanniga Champung¹, Boonsom Phuangnak¹, Nonglak Ingkamanee², Nuchanat Chumnicherngka³, Sarawoot Sompong⁴, Wilawan Janthamoon³, Supaporn Pimpaporn⁵, Doungnetre Thamakul⁶ and Kulthida Panichkul⁷

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This descriptive study was aimed to develop questionnaire of quality of life in stroke patients, evaluate quality of life in stroke patients and depression, and compare quality of life and depression of rural and urban in stroke patients, Health region 4. This research was divided in two phases. In the 1st phase, the samples included were nine persons of multidisciplinary team of stroke patients, officer of Sub-district Administration Organization (SAO), and stroke patient. Data was collected by using opinion of quality of life questionnaire and analyzed data by using content validity index; CVI and reliability of Cronbach's alpha coefficient. The result showed CVI was 0.80, and Cronbach's alpha coefficient was 0.84. Furthermore, depression questionnaire was suggested to implement with quality of life questionnaire that it did not cover depression. The 2nd phase, the samples from purposive sampling were 300 new cases of the first year in stroke patients who were treated at regional hospital, provincial hospital, community hospital, and health promoting hospital, both rural and urban area, Health region 4, August during 2015 to October 2016. Data were collected by using quality of life questionnaire that developed from the 1st phase, and depression questionnaire (Thai version of the PHQ-9; Thai PHQ-9). Data were analyzed by using descriptive statistics, and Wilcoxon Signed Ranks Test. The results showed that level of quality of life, and domain of physical, psychological, and environment were moderate but social relationship was poor, and depression was mild. To compare with rural and urban area showed that four domains of quality of life, totally quality of life, and depression were significantly different at $p < 0.05$. This study showed quality of life questionnaire was valid and reliable that should be expanded in another area. Quality of life level of stroke patients, Health region 4 was moderate, depression was mild. In rural and urban area, quality of life, and depression were significantly different. Therefore, intervention should be launched for improvement of quality of life in stroke patients in the future.

Biography

Ananya Manit is a nurse, head of male medicine ward, King Narai Hospital, Lop Buri, Thailand. She worked as non-communicable disease system manager since 2000, head of research and development department of Nursing Staff Organization in 2017.

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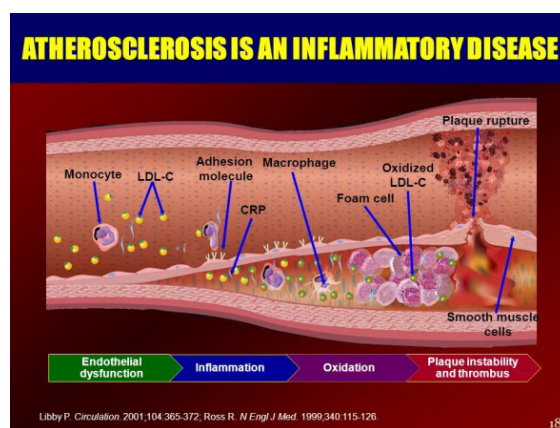
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Heavy metals and atherosclerosis; it is time to start talking about new risk factors

Sergio Mejia Viana
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Atherosclerosis is not a single disease entity. In fact, the lesions of atherosclerosis represent a common response of the Artery to numerous and potentially different forms of insult. Examination of atherosclerotic lesions reveals that each lesion contains the elements of an inflammatory response together with varying levels of fibro proliferative response. Many authors have written extensively about the holes in the cholesterol theory, and that mainstream medicine's obsession with reducing cholesterol levels has always been misguided. There is increasing concern regarding the health effects of exposure to various heavy metals in the environment. This is particularly true for mercury, cadmium, lead, aluminum and arsenic. Lead exposure increased through the mid 1970's, largely as a result of use of tetraethyl lead in gasoline. At the peak of lead production, the atmospheric release of lead reached 600.000 tons annually. The half-life of lead in the body is extremely long as it accumulates in the bone. The association between lead and cardiovascular disease has been recognized for years and there is consistent epidemiological evidence that lead is an established risk factor for hypertension, promotes oxidative stress and inflammation, the triggering event of atherosclerosis. Cadmium production increased during the 20th century as a result of the production of nickel-cadmium batteries, metal coatings and plastic stabilizers. Food and smoking are the major sources of cadmium for the general population. Cadmium is stored in the kidneys, liver, lungs, pancreas and central nervous system, with a half-life of over 15 years. A recent systematic review concluded that the evidence supports the role of cadmium as a cardiovascular disease risk factor, especially for coronary disease. Understanding that atherosclerosis is an inflammatory disease and not fat deposits blocking arteries will improve preventative strategies. The consequences of metal toxicity should now be published widely enough in order to avoid cardiovascular problems.



Biography

Sergio Mejia Viana has completed his Cardiology training and Doctorate studies at University Clinic of Navarre. He was an interventional Cardiologist, Angiologist and Phlebologist for 20 years. He is a Fellow of the European Society of Cardiology, has written more than 100 scientific publications including abstracts, articles and book chapters. He returned to clinical practice with high interest in Prevention. Currently, he is a Consultant at Medical Investigation Unit, St. Bernard's Hospital in Gibraltar.

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Association of FTO and IRX3 genetic variants to obesity risk in north India

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Obesity is an increasingly important health problem worldwide as well as in developing countries like India. Recent genetic studies suggest that obesity associated FTO and IRX3 are functionally linked and many effects due to genetic variants in FTO gene act through IRX3. The aim of the present study was to evaluate the association of FTO and IRX3 genetic variants with obesity risk in North Indian Population. North Indian individuals categorized as non-obese (BMI<30 kg/m²) and obese (BMI≥30 kg/m²) were selected. FTO rs8050136, rs1421085, rs9939609, rs17817449 and IRX3 rs3751723 were genotyped by validated TaqMan allelic discrimination to evaluate their association with obesity by means of single locus logistic regression by SPSS version 19 and multi-locus linkage and haplotype analysis by SNP Stats and gene-gene interaction with Generalized Multifactor Dimensionality Reduction (GMDR) version 6. In single locus analysis, FTO rs8050136 CA [p=0.0001; OR (95% CI)=2.4 (1.7–3.4)] and AA [p=0.0001; OR (95% CI)=3.1 (1.9–5.2)]; FTO rs1421085 TA [p=0.0001; OR (95% CI)=2.1 (1.4–3.0)] and AA [p=0.0001; OR (95% CI)=3.0 (1.8–5.0)]; FTO rs9939609 TC [p=0.0001; OR (95% CI)=2.1 (1.5–3.1)] and CC [p=0.0001; OR (95% CI)=4.2 (2.5–7.3)] along with TG [p=0.001; OR (95% CI)=2.1 (1.3–3.2) and GG (p=0.021; OR (95% CI)=3.8 (1.2–11.8)] genotypes of FTO rs17817449 with GT (p=0.0001; OR (95% CI)=2.1 (1.5–3.1) and TT (p=0.012; OR (95% CI)=3.3 (1.8–3.6) genotypes of IRX3 rs3751723 were significantly associated with obesity. In multi-locus analysis, SNPs of FTO and IRX3 were in strong linkage disequilibrium and in haplotype and GMDR analysis the SNPs were significantly associated with obesity risk (p<0.05). To conclude, this is the first study to reveal that genetic variants of both FTO and IRX3 genes are in high linkage disequilibrium (LD) and are associated with obesity risk in North Indians.

Biography

Neena Srivastava is Professor in Department of Physiology at King George's Medical University, Lucknow, UP, India. She is an active Researcher in the field of Medical Genetics and Genetic Epidemiology since last 27 years. She has published 74 publications in national and international peer-reviewed journals and has authored three chapters in the book *Sports Medicine* by Paras Medical Publisher, New Delhi. She has also received awards like Bharat Ratna Dr. A.P.J. Abdul Kalam Excellence Award, Prof K.P. Puthuraya Best Medical Teacher, PEARL Foundation Educational Excellence Award for Best Women Physician in the field of Physiology, Glory of India Award for Meritorious achievements and individual excellence and outstanding contribution for the progress of the nation and worldwide-IIFS, etc. She is also member of various international and national scientific bodies and is part of editorial/review board of various international and national journals.

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Diagnostic challenges in systemic lupus erythematosus and antiphospholipid syndrome

Ljudmila Stojanovich
Belgrade University, Serbia

Systemic lupus erythematosus (SLE) and antiphospholipid syndrome (APS) or Hughes syndrome are probably the most important paradigm of systemic autoimmune disease. Lupus is known as the great imitator, because its symptoms mimic many other illnesses. Early diagnosis is critical in avoiding major organ damage. However, the lack of a gold standard test to confirm diagnosis often results in delays or misdiagnosis. According to the American College of Rheumatology based classification 4 of the 11 criteria have to be positive. The Systemic Lupus International Collaborating Clinics group decided to address concerns about inclusion of many cutaneous, cardiac and neurological manifestations, the omission of low complement levels and eight-year work validate a new set of classification criteria for SLE. These criteria were noted to be more sensitive but less specific than the ACR criteria; they also resulted in fewer misclassifications of patients. Although at present APS is a well-described, difficult-to-diagnose entity, it took many decades to define the diagnostic criteria. The latest classification criteria for diagnosing APS are the 2006 reviewed Sapporo criteria that require the presence of at least one clinical manifestation and one positive laboratory criteria. Following the application of the Sapporo criteria, controversy arose because those criteria identify a more homogeneous group of APS patients at the expense of excluding another, a group collectively referred to as seronegative APS. The need for more guidelines regarding the detection of LA is now fulfilled by the SSC updated guidelines. There are recent studies present on the most promising antibodies of this heterogeneous aPL family. Nowadays, APS is increasingly recognized as a multisystem disease, the clinical expression of which may include (many non-criteria) cardiac, neurological, haematological, cutaneous and other manifestations. There is transition from APS to SLE with secondary APS. Special attention should be given to secondary APS patients when they are submitted to high-risk events: from 7-10% patients with PAPS may go on to develop SLE. Despite updates of the diagnostic criteria, the diagnosis of SLE and APS remains difficult.

Biography

Ljudmila Stojanovich received her PhD in Medicine with the thesis entitled "Neuropsychiatric manifestations in patients with systemic lupus erythematosus" in 1999. She is the Scientific Director at Bezhanijaska Kosa, University Medical Center of Belgrade, where she is currently a Full Research Professor. Her research focuses on Systemic Lupus Erythematosus, Antiphospholipid Syndrome, and Vaccination in patients with autoimmune rheumatic diseases. She is an author of three monographs and of about 250 articles on various aspects of autoimmune rheumatic disorders, published in international and domestic journals and in conference proceedings.

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Symposium Day 2

Chronic Diseases & Microbial Physiology 2017



Yacov Rofo

Bar-Ilan University, Israel

Psycho-bizarreness: The intuitive rational-choice theory of madness

This presents a new theory, *Psycho-Bizarreness: The Intuitive Rational-Choice Theory of Madness*, which explains the development and treatment of schizophrenia, criminal insanity and neuroses, as rational coping mechanisms. Psycho-Bizarreness Theory (*PBT*) claims that when individuals are confronted with extreme levels of stress, regardless of whether the source of the stress is environmental or neurological impairments that prevent them to satisfy their basic needs, their behavioral options become limited. While some individuals prefer to remain depressed, commit suicide, become drug abusers or use aggression to eliminate the stressor, a minority of people intuitively choose certain mad behaviors that serve their coping needs. Madness, defined by five operational criteria (see Rofo, 2016), is seen primarily as a repressive coping mechanism, which enables patients to block the accessibility of stress-related thoughts. The choice of a specific behavior is determined by the same three principles which guide the consumer's decision-making process when purchasing a certain product (e.g., see Wänke & Friese, 2005). This includes the need to exercise control over the stressor, availability of suitable "merchandise" and cost-benefit analysis. Although the decision to implement the intuitive/unconscious choice is conscious, patients become unaware of the Knowledge of Self-Involvement (KSI), or the True Reason (TR) for acting bizarrely, through a variety of cognitive processes that disrupt the encoding of this knowledge and memory-inhibiting mechanisms that cause its forgetfulness. Subsequently, utilizing their socially internalized beliefs regarding the causes of psychological disorders, patients develop a self-deceptive belief which attributes the cause of their symptoms to factors beyond their conscious control, and thus stabilizes the unawareness of KSI/TR. *PBT* proved its ability to integrate all therapeutic methods pertaining to neurosis into one theoretical framework (Rofo, 2010), explaining all data relevant to the development and treatment of conversion disorder, including neurological findings, which seemingly support the medical explanation of this disorder (Rofo & Rofo, 2013), and resolves the theoretical confusion regarding the explanation of phobia by distinguishing between a bizarre phobia (e.g., agoraphobia, and chocolate phobia) and non-bizarre phobia, such as dog phobia (Rofo, 2015).

Biography

Yacov Rofo is a professor of psychology and former chair of the Interdisciplinary Department of Social Sciences at Bar-Ilan University in Ramat-Gan, Israel. He taught for the Department of Psychology at Washington University in St. Louis, Missouri, and was a visiting professor at Rutgers Medical School in New Jersey. He has published influential articles in leading journals, including an article entitled "Utility Theory: Stress and Affiliation", which was published in the prestigious journal, *Psychological Review* (1984). Soon after receiving tenure, while being fully aware that he would most likely be wasting many years of work in vain, he began to develop a new theory of psychopathology, termed Psycho-Bizarreness Theory (*PBT*) (Rofo, 1989, 2000), which proved its ability to integrate research and clinical data of rival theories, and thus, resolve the endless controversy in this area.

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Workshop Day 2

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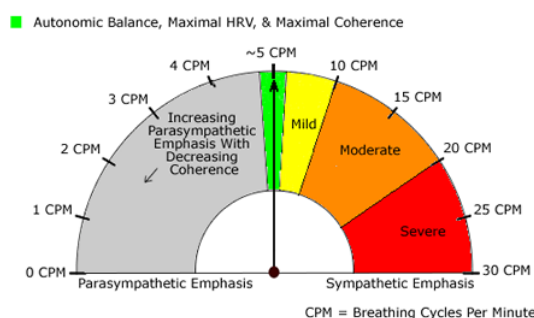


Sergio Mejia Viana

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Chemical, physical and emotional stress; every chronic disease has a close relationship with one or many of them; How to detect and how to cope with stress: workshop

Stress is defined as a process in which environmental demands strain an organism's adaptive capacity resulting in both psychological demands as well as biological changes that could place at risk for illness. Emotional stress is a major contributing factor to the six leading causes of death in the United States: cancer, coronary heart disease, accidental injuries, respiratory disorders, cirrhosis of the liver and suicide. According to statistics from Meridian Stress Management Consultancy in the UK, almost 180,000 people in the UK die each year from some form of stress-related illness. But our bodies are not only under emotional stress. Due to poor nutritional habits and environmental pollution, we are constantly under the effect of a wide variety of chemical stressors which is defined as hazardous substances which, when released into an environment, damage the living organisms or ecosystems or reduces their ability to cope with environmental and biological changes (too many cups of coffee, too much alcohol, too much junk food, too many medications, inhaling substances at the factory or office, pollution on the road, smokers in environment, etc.). We have also physical stress that is caused by, for example: pushing body to the limits, working out at the gym, driving long distances continually, sitting in front of a computer for extended periods without breaks, gardening for long periods, any kind of labor intensive job, etc. There are additional definitions for mental, emotional and even spiritual stress. This workshop has the aim of providing the attendees with easy to learn tools to understand stress physiology, diagnosis and treatment using biologically effective methods like heart rate variability biofeedback that increase coherence between the parasympathetic and sympathetic nervous systems. Inputs on chemicals stressors like nutritional recommendations and knowledge on heavy metals will be discussed.



Biography

Sergio Mejia Viana has completed his Cardiology training and Doctorate studies at University Clinic of Navarre. He was an interventional Cardiologist, Angiologist and Phlebologist for 20 years. He is a Fellow of the European Society of Cardiology, has more than 100 scientific publications including abstracts, articles and book chapters. He returned to clinical practice with high interest in Prevention. Currently, he is a Consultant at Medical Investigation Unit, St. Bernard's Hospital in Gibraltar.

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Scientific Tracks & Abstracts Day 2

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Sessions

Day 2 September 01, 2017

Chronic Osteoarticular Diseases | Chronic Liver Diseases | Hypertension | Neuro-degenerative Diseases

Session Chair

Yacov Rofe

Bar-Ilan University, Israel

Session Introduction

Title: Role of TRPV4 calcium-permeable channel in atherogenesis

Shaik O. Rahaman, University of Maryland, USA

Title: Pain reduction and functionality of knee osteoarthritis through a 3D bio printing device enriched of Bone Marrow Mesenchymal Stem Cells (MSC) in 10 patients over the age of 50

Joe Loui carrillo, Terumo Medical, Mexico

Title: The lymphedemas as chronic diseases

Pierre Bourgeois, University Libre de Bruxelles, Belgium

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Role of TRPV4 calcium-permeable channel in atherogenesis

Shaik O Rahaman

University of Maryland, USA

Cardiovascular disease is the number one cause of death in the developed world, and atherosclerosis, a chronic inflammatory arterial disease, is the most dominant underlying pathology. Macrophages are thought to orchestrate atherosclerosis by generating lipid-laden foam cells and by secreting inflammatory mediators. Emerging data support a role for a mechanical factor, e.g., matrix stiffness, in regulation of macrophage function, vascular elasticity, and atherogenesis. However, the identity of the plasma membrane mechanosensor and the mechanisms by which pro-atherogenic signals are transduced are unknown. Published work by our group and others showed that TRPV4, an ion channel in the transient receptor potential vanilloid family, a known mechanosensor, is activated by a range of mechanical and biochemical stimuli. We have obtained evidence that: genetic ablation of TRPV4 or inhibition of TRPV4 activity by a specific antagonist blocked oxidized low-density lipoprotein (oxLDL)-induced macrophage foam cell formation, a critical process in atherogenesis, and TRPV4 deficiency prevented matrix stiffness-induced exacerbation of oxLDL-induced foam cell formation. Mechanistically, we found that: plasma membrane localization of TRPV4 was sensitized to the increasing level of matrix stiffness; lack of foam cell formation in TRPV4 deficient macrophages was not due to lack of expression of CD36, a major receptor for oxLDL and; TRPV4 channel activity regulated oxLDL internalization but not its binding on macrophages. Altogether, these findings identify a novel role for TRPV4 in regulating macrophage foam cell formation by modulating internalization of oxLDL. These findings suggest that therapeutic targeting of TRPV4 may provide a selective approach to the treatment of atherosclerosis.

Biography

Shaik O Rahaman is an Assistant Professor at University of Maryland, USA. He is interested in elucidating the signaling events underlying the pathogenesis of atherosclerosis and fibrosis. He completed his PhD in Molecular Biology at Jadavpur University, and a BS in Human Physiology (Honors), and an MS in Biophysics and Molecular Biology at University of Calcutta. From 2000-2014, he worked at Cleveland Clinic, Cleveland, USA, as a Postdoctoral Fellow, eventually as a Project Scientist and Assistant Professor. In 2013, he was the recipient of the American Heart Association Scientist Development Grant. He is the author or co-author of 21 research papers in high impact international peer-reviewed journals of repute. He has given numerous invited talks nationally and internationally.

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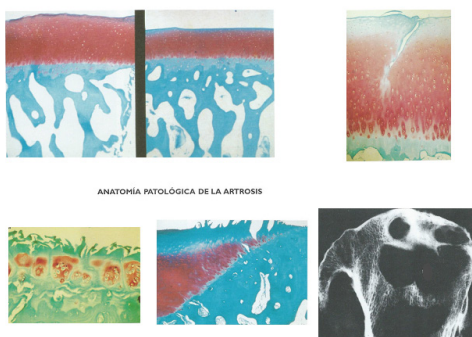
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Pain reduction and functionality of knee osteoarthritis through a 3D bioprinting device enriched of bone marrow mesenchymal stem cells in 10 patients over the age of 50

Joe Loui Carrillo

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10 patients of both sexes over the age of 50 clinically diagnosed with Kellgren-Lawrence grade 2 or 3 knee osteoarthritis and according to Lequesne's evaluation and SF-36, controlled for associated sicknesses, inflammatory signs (oversensitive reactive C protein, VSG, etc.), mechanical axis radiometry, 60° axes, AP of knees bearing weight and of knees not bearing weight, Magnetic Resonance Imaging (MRI) of 3.0 T knees printed on Dicom, segmented by the Mimic system. Once the segment is processed, it is printed in 3D with polycaprolactone (PCL) polymer. Simultaneously in the operating room through arthroscopy, the identified region implant is placed. When concentrated bone marrow Concemo is taken simultaneously, stem cells are introduced in the implant placed in the lesion inside of the scaffold, and the excess is left deposited in the articulation. The knee is left to rest two weeks; physical therapy and progressive rehabilitation begin without weight being placed on the knee. At four weeks, all assistance through walking support is taken away. Rehabilitation complete arc movement is recovered. Radiological follow-up is given at three and six months, and three patients are randomly selected in order to undergo biopsies at the placement site of the implant in order to corroborate the characteristics of the healed tissue taking into consideration waiting time for type II collagen cells and knowing their geometric distribution in order to determine weight-bearing tolerance. At the moment of the biopsy result, after six months of radiological follow-up and the random biopsy of three cases, the monitoring according to protocol is completed. The patient should stop consuming anti-inflammatory medication.



Kernoch B Brandt, *Art. Atlas of Osteoarthritis*, 1st ed, pag 9-25, 2002



Biography

Joe Loui Carrillo is an Orthopedic Traumatologist. He is an active member of the International Cartilage Repair Society since 2016. He is a Founder and General Director of Center of Regenerative Medicine Queretaro, active member of International Geriatric Fracture Society 2015.

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The lymphedemas as chronic diseases

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Lymphedemas (LE) are edemas demonstrated as of lymphatic origin and LE may be observed at the level of any part of the human body. In occidental and northern countries, these LE are usually secondary and related to surgeries and/or radiation therapy for cancer (for instance, around 20% of the women after complete axillary node dissection for breast cancer). In tropics worldwide and in Southeast Asia, this LE may be secondary to infection by filarial parasites (40 million people). Everywhere, some LE may also be primary (10% of these 1ary LE are inherited and with provable genetic abnormalities). The incidence of this 1ary LE is usually reported to be low but might be (largely) under-estimated. Anyway, these clinical situations represent chronic diseases, also sometimes very heavy and disabling. There are no medical treatments (except in infectious diseases) and although some surgical approaches begin to be proposed, the treatment of these situations remains mainly based on physical therapies combining manual lymphatic drainages, therapeutic multi-layer bandagings, the use of pneumatic compression systems. These treatments will however last the patients' whole-life. In-between short intensive therapies, maintenance therapeutic interventions are usually necessary as well as the wearing of elastic sleeves and/or stockings. Finally, one of the most frequent thinking from people faced to secondary LE is rather prevent them than to have to try to cure them. These situations are also unfortunately and poorly understood by people who try to treat these situations. The examinations however exist such as the functional and morphologic lymphoscintigraphy investigations. The doctors ignore them and/or do not use their results correctly. The patients themselves are also sometimes reluctant to undergo the proposed examinations although, when these investigations and their implications are well explained, they are usually compliant. Lymphedemas represent chronic diseases but they can be improved.



Biography

Pierre Bourgeois is a Specialist in Nuclear Medicine and in Radio-radium-therapy. He performed his first investigations of the lymphatic system in 1978. He is Head of Clinic in the Service of Nuclear Medicine of the Jules Bordet's Institute, also In-charge of Multi-disciplinary Clinic of Lymphology of the Institute. He is weekly in contact with patients consulting him for edematous situations and is working with physiotherapists and surgeons involved in the management and treatments of these patients. He was past-President of the European Society of Lymphology and is now President of the Belgian Society of Lymphology (BeSL).

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Remote monitoring to achieve self-management of type-2 diabetes mellitus: A prospective study

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Background: The world's population is aging, and more people are living with chronic conditions including diabetes mellitus. Healthcare providers are moving towards the use of telemonitoring to identify patient self-management approaches and ensure the delivery of health care at their home.

Aim: To explore three telemonitoring technologies that intend to achieve self-management of type 2 diabetes mellitus thereby improve HbA1c levels and quality of life.

Method: Interrupted time series design to evaluate the impact of three different telemonitoring solutions provided by one large combined health and social care trust with technology-naïve people, aiming to manage their type 2 diabetes mellitus. Sample: A total of 166 patients met the criteria at the diabetes clinic, with 29 patients consenting to take part in the study.

Results: Participants' baseline measurements were similar. The d-Nav solution exhibited significant improvement in HbA1c over the other telemonitoring solutions. Participants showed acceptability and significant satisfaction of using all three solutions and exhibited improved quality of life.

Conclusion: This exploratory study demonstrates the feasibility of using telemonitoring to self-manage type 2 diabetes mellitus offering a line of communication between the patient and their clinical care team at a distance.

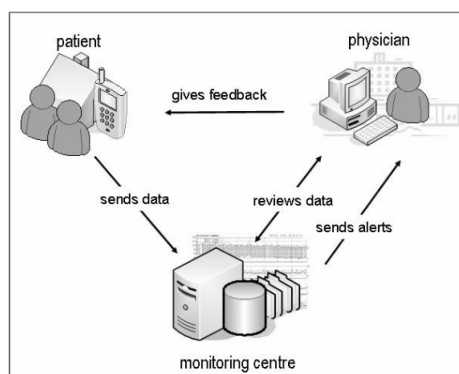


Figure1: The architecture of telemonitoring system consists of three main entities: The patient, the server and the healthcare provider.

Biography

Hayat Mushcab has completed her BSc in Health Information Management & Technology at King Faisal University. She completed her MSc in Computing and Intelligent Systems at University of Ulster; PhD in the field of Telehealth/Telemonitoring and Connected Health at Ulster University in the Faculty of Life and Health Sciences. She has five publications in international journals.

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Effects of probiotics on non-alcoholic fatty liver disease – A meta-analysis study

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Introduction: Non-alcoholic fatty liver disease is now considered as one of the most common causes of liver disease worldwide. It affects around one-third of adults, which estimated to affect about 1 billion individuals worldwide.

Aim: This study was done to correlate and associate different RCTs done in the use of probiotics in the management of Nonalcoholic Steatohepatitis (NASH). This study aims to evaluate the effects of Probiotics on NASH, specifically on AST, ALT, and TNF alpha.

Methodology: Several websites on gastroenterology were used as the search engines for the study. The search terms used were: Probiotics, nonalcoholic steatohepatitis and synbiotics. The researcher also did cross-reference of all the lists of references of each selected study manually. Data were analyzed using Review Manager 5.3. Continuous data were presented as odds ratio with 95% CI. Statistical heterogeneity was measured using the Chi square test and the I². 29 randomized controlled studies were selected and five of them fulfilled our inclusion criteria and were analyzed in this study.

Results: The meta-analysis showed a more favorable outcome with decreased ALT, AST and TNF-alpha with experimental group (probiotics plus diet and exercise) compared to the control group (diet and exercise) with P value of <.00001.

Conclusion: As a conclusion, based on the results of the study, probiotics have positive effects on patients with NAFLD/NASH. Probiotics also has favorable effect to decrease AST, ALT, and TNF-alpha levels among patients with NASH. This meta-analysis further shows that probiotics may be an alternative therapeutic option for NASH.

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