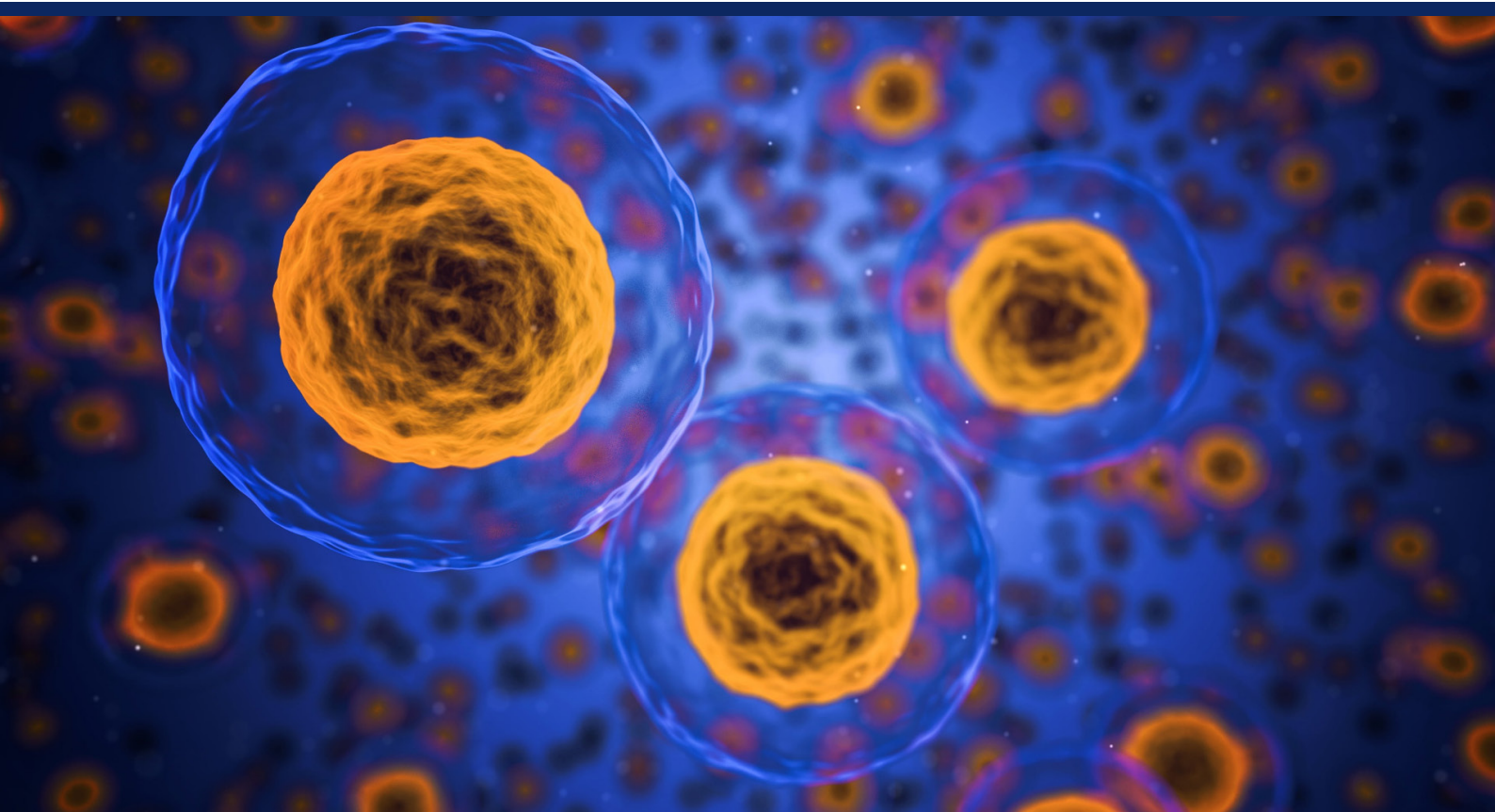


International Online Conference on

# **HEMATOLOGY AND BLOOD DISORDERS**

April 27-28, 2022 | Virtual Conference



**Coalesce Research Group**

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# Scientific Program

## International Online Conference on Hematology and Blood Disorders

Wednesday  
April 27, 2022

### DAY 1 (April-27)

11:00-11:10 Introduction

#### Oral Presentations

- 11:10-11:35 Minimal Residual Diseases Detection by Multicolor Flow Cytometry can Evaluate Prognosis of Cd19-Car-T Bridging to Allogeneic Hematopoietic Stem Cell Transplantation in B Cell Acute Lymphoblastic Leukaemia  
**Hui Wang**, Hebei Yanda Ludaopei Hospital, China
- 11:35-12:00 Single Cell Analysis of the Differentiation Trajectory of Acute Myeloid Leukemia  
**Feng Liu**, Shanghai Jiao Tong University, China
- 12:00-12:25 The Main Reservoir of Hiv Hidden in Carriers After Haart is in the Intestinal Tract, Where Vaccines Do Not Work?  
**Vladimir Zajac**, Cancer Research Institute, Slovakia
- 12:25-12:50 Biological Risk in Italian Prisons: Data Analysis From the Second to the Fourth Wave of Covid-19 Pandemic  
**Cristiano Franchi**, University of Rome Tor Vergata, Italy
- 12:50-13:15 The Contested Market of Plasma  
**Jean Mercier Ythier**, University of Paris Panthéon-Assas, France

#### Lunch (13:15-13:45)

- 13:45-14:10 SARS-CoV-2 Proteins Induce IL6 in Human Primary Monocytes and Macrophages. Implications for Cytokine Storm Syndrome  
**Marcin Ratajewski**, Institute of Medical Biology Pas, Poland
- 14:10-14:35 In Vitro Evaluation of the Plasma and Blood Compatibility of Novel Dendritic Nanostructures for Drug Delivery  
**Simon Suty**, Comenius University in Bratislava, Slovakia
- 14:35-15:00 Comparison Between the Anticoagulant Effect of Phospholipases A2 from Snake Venom and Anticoagulant Drugs  
**Daniela Priscila Marchi-Salvador**, Universidade Federal Da Paraíba, Brasil
- 15:00-15:25 Metal-Oxide Nanoparticles are Emerging Applications of Nanomedicine to Treatment of Viral Diseases  
**Naushad Khan**, University of California, USA

#### Poster Presentations

- 15:25-15:40 Access to Services for Infectious Diseases During Pandemic in Albania. the Need for Emergency Preparedness.  
**Pellumb Piperio**, Tirana University of Medicine, Albania
- 15:40-15:55 Current Status of Hiv-1 Vaccines  
**Shumaila N M Hanif**, Kentucky College of Osteopathic Medicine, University of Pikeville, USA

#### Keynote Presentations

- 15:55-16:30 Energy Alterations in Patients with Ground Glass Opacity in SARS-CoV-2 Infection  
**Huang Wei Ling**, Medical Acupuncture and Pain Management Clinic. Franca, Brazil
- 16:30-17:05 The Impact of Alcohol Use During Seemingly Suppressive Antiretroviral Therapy: Risk of Blips and Rebounds  
**Maria Jose Miguez**, Florida International University, USA

Day 1 Concludes

# Scientific Program

## International Online Conference on Hematology and Blood Disorders

Thursday  
April 28, 2022

### Day 2 (April-28)

#### Oral Presentations

- |             |   |
|-------------|---|
| 11:00-11:25 | Relation Between Lipid Profile, Blood Pressure and Retinopathy in Diabetic Patients in King Abdul-Aziz University Hospital<br><b>Dania W. Alsulami</b> , Abdul-Aziz University Hospital, Saudi Arabia                                       |
| 11:25-11:50 | Sexual Dysfunction and Hepatitis C Virus Infection<br><b>Major Gheorghe Giurgiu</b> , Deniplant-Aide Sante Medical Center, Romania  |
| 11:50-12:15 | Level of Depression in Patients Diagnosed with Chronic Hepatitis C Virus Before Starting Direct Antiviral Therapy<br><b>Andreea Florentina Stoenescu</b> , Clinical Hospital of Infectious and Tropical Diseases "Dr.Victor Babes", Romania |
| 12:15-12:40 | Letin: A Molecular Tool in Cancer Diagnostic and Therapy<br><b>Shubhangi Pingle</b> , National Institute of Occupational Health, ROHC, India  |
| 12:40-13:05 | Beyond Polymerase Chain Reaction-Based Diagnosis; Time for Accredited and Highly-Sensitive Diagnosis of Covid-19<br><b>Maryam Mohammadi</b> , Islamic Azad University, Iran   |

#### Lunch(13:05-13:35)

- |             |  |
|-------------|--|
| 13:35-14:00 | Energy Alterations in Patient with Pyomyositis and Why This Infection Does Not Respond to Antibiotics Treatment?<br><b>Huang Wei Ling</b> , Medical Acupuncture and Pain Management Clinic. Franca, Brazil |
| 14:00-14:25 | Whole-Genome Sequencing: the Key Role of Vaccine and Antiviral Research<br><b>Naushad Khan</b> , University of California, California, USA   |
| 14:25-14:50 | Alcohol Use During Covid-19 Pandemic in the Smoking Cessation Clinical Trial for People Living with HIV (PATCH)<br><b>Maria Jose Miguez</b> , Florida International University, USA                        |

#### Poster Presentation

- |             |  |
|-------------|--|
| 14:50-15:05 | HIV Infection in Adolescents in Cuba, 1987 to 2018 - An Epidemiological Approach<br><b>Alba Cortés Alfaro</b> , National Institute of Hygiene, Epidemiology and Microbiology, Cuba |
|-------------|--|

#### Day 2 Concludes

***Day-1***  
***Keynote Presentations***



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**ENERGY ALTERATIONS IN PATIENTS WITH GROUND GLASS OPACITY IN SARS-CoV-2 INFECTION**

**Huang Wei Ling**

*Medical Acupuncture and Pain Management Clinic. Franca, Brazil*

**Abstract**

**Introduction:** Patients with SARS-CoV-2 can have alterations in the Lungs characterizing them as having pneumonia and they are usually treated with the use of antibiotics, with diverse outcome evolution. But there are some studies in the literature, of post mortem Lung biopsy and anatomy study, that these alterations of ground glass opacity are caused by Blood stagnation in the Lungs vessels, causing the symptoms of dyspnea and not by the virus itself.

**Purpose:** The purpose of this study is to show, according to these studies, that ground glass opacity in the Lungs, can be correlated with the energy status situation of the internal five massive organs previously to the SARS-CoV-2, that are responsible for the adequately flowing of the Blood inside the vessels, leading to the stagnation of Blood inside the vessels of the Lung, and causing these alterations in the Lung's radiography.

**Methods:** Through one case report of female patient that has COVID-19 on May 2021. After waiting to be admitted in the hospital, her clinical evolution worsened and evolve to dyspnea after 7 days taking antibiotics and other highly concentrated medications. Her Lung tomography showed that 40% of her Lung were affected "by the infection". Her son called me and asked me for help. As I know that the majority of the population in this world are having energy deficiency in the five internal massive organs, responsible for the production of energy for the adequate flowing of Blood inside the vessels, I prescribed the use of highly diluted medications for her to have more energy to maintain the Blood flowing inside the vessels, according to the theory Constitutional Homeopathy of the Five Elements based on *Traditional Chinese Medicine*.

**Results:** After three days of beginning of their take of these medications, she did not need to be intubated any more in the hospital, even her Lungs were affected in 70%, and the doctor allowed her to stay at home because her clinical evolution become much better after the intake of homeopathy medications. She returned to my clinic after 15 days of the discharge from the hospital and I measured her chakras' energy centers and was completely deficient in energy (rated one out of eight), with the exception of the seventh chakra, that was normal, rated in eight.

**Conclusion:** Patients with ground glass opacity at the Lung radiography could mean that there is Blood stagnation in the Lungs vessels and not due to the virus infection itself. The understanding of this meaning is important to the physician to know how to treat this condition, giving energy to the Blood maintaining circulating inside the Blood vessels, knowing that quite entire population in this world are affected by the influences of the electromagnetic waves, leading to this energy deficiency state, predisposing them to have stagnation of Blood, mainly when using highly concentrated medications, in this case, in the Lungs Bloods vessels, leading to ground glass opacity at Lungs radiography.

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### **Biography**

Huang Wei Ling, born in Taiwan, raised and graduated in medicine in Brazil, specialist in infectious and parasitic diseases, a General Practitioner and Parenteral and Enteral Medical Nutrition Therapist. Once in charge of the Hospital Infection Control Service of the City of Franca's General Hospital, she was responsible for the control of all prescribed antimicrobial medication and received an award for the best paper presented at the Brazilian Hospital Infection Control Congress in 1998. Since 1997, she works with the approach and treatment of all chronic diseases in a holistic way, with treatment guided through the teachings of Traditional Chinese Medicine and Hippocrates. Researcher in the University of São Paulo, in the Ophthalmology department from 2012 to 2013. Author of the theory Constitutional Homeopathy of the Five Elements Based on Traditional Chinese Medicine. Author of more than 100 publications about treatment of variety of diseases rebalancing the internal energy using Hippocrates thoughts.

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**THE IMPACT OF ALCOHOL USE DURING SEEMINGLY SUPPRESSIVE  
ANTIRETROVIRAL THERAPY: RISK OF BLIPS AND REBOUNDS**

**Maria Jose Miguez**

*Florida International University, USA*

**Abstract**

**Background:** Increasing our understanding of viral blips, and viral rebounds is critical for the development of effective strategies to eliminate HIV, reduce transmission and prevent disease progression.

**Objective:** Our goal was to identify the rate and determinants of viral load dynamics, particularly the effect of hazardous alcohol use.

**Methods:** A total of 400 participants initiating antiretroviral therapy were comprehensively assessed. Alcohol intakes and laboratory tests were simultaneously obtained at four time points (baseline, 6 12 and 18 months), along with potential covariates, such as demographics, CD4, CD8, platelets, alcohol use profiles, and medication adherence. VL suppression was assessed at 6 months and then based on prior published work, viral trajectories were censored according to the following categories: reference Group 1 (very low viremia<50), viral blips Group 2 (50-399), and the viral rebound Group 3 (400-1000 copies/mL). Factors associated with VLV, blips, and rebounds were identified using logistic regression models.

**Results:** The study sample was characterized by normal liver enzymes and CD4 cells counts near 500 suggesting preserved immune function. During the observation period 20% of the participants exhibited viral blips. Notably, almost half of the group (43%) had viral rebounds. Despite similar medication adherence (95% vs. 85%), hazardous alcohol users were twice more likely to have a viral rebound, compared with non-users (95% CI, 1.8-2.5; p=0.000). Alcohol users were also more likely to have blips. After adjustment for potential confounders, regression analyses indicated that CD4 counts at the time of therapy initiation, alcohol use, and age were independently associated with blips and rebounds.

**Conclusions:** In this cohort, hazardous alcohol use was associated with an increased risk of both blips and rebounds. These findings have implications for clinicians, researchers and policy makers, as they highlight the detrimental effects of alcohol use while on ART therapy.

**Biography**

Maria Jose Miguez is professor at Florida International University and Director of the Neuroimmunology, Health & Behavior Initiative. She is a medical immunologist with expertise in HIV and interest in improving HIV infected people health and well-being. She has been studying viral and immune responses and the effects of other comorbidities such as tobacco and alcohol abuse. Research interests include neuroimmunology, infectious diseases and behaviors.

***Day-1***  
***Oral Presentations***



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MINIMAL RESIDUAL DISEASES DETECTION BY MULTICOLOR FLOW  
CYTOMETRY CAN EVALUATE PROGNOSIS OF CD19-CAR-T BRIDGING TO  
ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION IN B CELL  
ACUTE LYMPHOBLASTIC LEUKAEMIA

**Hui Wang**

*Hebei Yanda Ludaopei Hospital, China*

**Abstract**

**Introduction:** Many recent studies have testified that anti-CD19 chimeric antigen receptor T cell (CD19-CAR-T) infusion bridging to allogeneic hematopoietic stem cell transplantation (Allo-HSCT) is an effective and safe treatment for patients with relapsed/refractory B-cell acute lymphoblastic leukemia (r/r B-ALL). Minimal Residual Disease(MRD) detection by multicolor flow cytometry(MFC) is an important parameter for monitoring therapy effect in acute leukaemia. However, there are rare studies on evaluating suitable MFC panels for MRD detection after CD19-CAR-T treatment because the expression of CD19 will lose or partially lose. Here we design a cytoplasmatic CD79a(cCD79a) gating MFC panel and evaluate its effectiveness on MRD detection, and study its value in monitoring and evaluating prognosis of Allo-HSCT after CD19-CAR-T.

**Methods:** MRD detection was performed on Bone marrow samples from 59 patients who received CD19-CAR-T bridging to Allo-HSCT in Hebei Yanda Ludaopei Hospital from June 2016 to May 2017 using MFC and 2 tubes 8-color cCD79a gating panel. The patients were 33 males and 26 females, with a median age of 10 years (2-51 years) old. After following up for median 24m (1-30m), the survival curve of overall survival(OS), the effect of MRD status after CD19-CAR-T on relapse rate and relapse time after allo-HSCT, and other prognostic factors were studied.

**Results:** After CD19-CAR-T treatment, MRD negative complete response(CR) rate was 86.44%(51/59). The patients were divided into two arms according to their MRD status after CD19-CAR-T, and were followed up for median 24 months (17~30 months). 51 patients were in the arm who received Allo-HSCT in MRD-negative status (MRD negative arm). When the study finished, 42 patients (82.35%) survived with MRD negative CR, 8 patients (15.69%) died after transplantation, of which 3 died of relapse and 5 died of transplant-related complications. 1 patient was lost to follow-up. 8 patients were in the arm who received Allo-HSCT in MRD- positive status (MRD positive arm), of which 4 patients (50%) remained MRD positive after transplantation and all died of relapse shortly after allo-HSCT, 3 patients achieved MRD negative CR for more than 24 months, and 1 patient was lost to follow-up. MRD status after CAR-T infusion had a significant effect on the survival rate after Allo-HSCT ( $P=0.0123$ ). The MRD positive rate after transplantation was 15.25% (9/59), 5 patients(9.8%) in MRD negative arm and 4(50%) in MRD positive arm. The relapse-related mortality rate was 11.86% (7/59), with 3 patients in MRD negative arm and 4 in MRD positive arm, for 2 patients in MRD negative arm achieved MRD negative CR after treatment and kept that until the end of follow-up (24m). After CD19-CAR-T therapy, MRD status prior to and post Allo-HSCT were all strongly correlated with prognosis ( $P < 0.0001$ ,  $P=0.000$ , respectively). The correlation analysis indicated that prognosis was not related to Gender, age, and the time interval from CD19-CAR-T to Allo-HSCT. The median relapse time after allo-HSCT was later in MRD negative arm than that in MRD positive arm, 61.5d(40d~84d) v 4m(3~15m).

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**Conclusion:** The new MFC MRD panel using cCD79a gating is a reliable technique to assess prognosis, monitor relapse and guide the treatment. It shows that MRD status after CD19-CAR-T before and after allo-HSCT are significantly correlated with prognosis.

### **Biography**

Hui Wang is a Certified hematopathologist. 5 years' experience in internal medicine, 21 years experiences in flow cytometry, signed more than 500,000 Flow cytometric diagnostic reports. The first inventor of 7 Chinese Invention Patents. Corresponding author of two consensus of Chinese experts: The consensus of Chinese experts on the detection of lineage in acute leukemia by flow cytometry, Chin J Lab Med, 2021, 44(12):1116-1128; Consensus of experts on the detection of tumor cells in cerebrospinal fluid by flow cytometry, Chin J Lab Med, 2021, 44(8):679-689. The chairman of flow cytometry branch of professional committee on laboratory medicine, Chinese association of integrated traditional and western medicine. vice chairman, Beijing medical laboratory association. Taking part in writing 12 books and 60 papers.

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**SINGLE CELL ANALYSIS OF THE DIFFERENTIATION TRAJECTORY OF ACUTE MYELOID LEUKEMIA**

**Feng Liu**

*Shanghai Jiao Tong University, China*

**Abstract**

Cancer differentiation therapy aims to induce the maturation of neoplastic cells, yet it is unclear how cell fate is determined in an oncogenic cellular context. Recently, we have approached this issue by studying the differentiation trajectories of two well established in vitro models of leukemia differentiation. We show that, under the induction of all-trans retinoid acid (ATRA), the NB-4 (PML-RARA+ APL/AML-M3-subtype cell line) cells navigate through a cell fate bifurcation point, with only one branch leading to mature granulocytes. Co-cis-accessibility network analyses, coupled with CRISPR- and CRISPRi-genome editing experiments, indicate that SPI1 and CEBPE, two hematopoietic lineage-determining transcription factors, are directly activated by ATRA signaling via discrete PML-RARA-targeting enhancers to promote terminal granulopoiesis. By contrast, in HL-60 cells, a cell line with AML-M2-subtype features, ATRA fails to activate strong SPI1 and CEBPE expression, and ATRA-induced differentiation is not only incomplete but also promiscuous, which is characterized by weak coinduction of both granulopoiesis and lymphopoiesis gene expression programs. Together, our study uncovers significant heterogeneity in the differentiation trajectories of AML cells and suggests that the therapeutic efficacy of ATRA in certain AML-subtypes may be compromised by therapy-induced lineage promiscuity.

**Biography**

Feng Liu is Principal Investigator of the National Research Center for Translational Medicine (Shanghai) and Shanghai Jiao Tong University School of Medicine-Ruijin Hospital, China. Dr. Liu received his PhD from the University of Southern California and worked as a post-doctoral fellow at the University of California-San Diego and Ludwig Institute for Cancer Research. After joining the faculty of NRCTM in 2016, Dr. Liu's laboratory has been focusing on the application of high-throughput sequencing technologies on the study of tumor heterogeneity.



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**THE MAIN RESERVOIR OF HIV HIDDEN IN CARRIERS AFTER HAART IS IN THE INTESTINAL TRACT, WHERE VACCINES DO NOT WORK?**

**Vladimir Zajac**

*Cancer Research Institute, Slovakia*

**Abstract**

All viruses, including HIV, are parasites. They cannot exist by themselves and fully depend on their carriers. This is the basic condition of their existence. After all, a parasite must have its host, a living cell. It is generally claimed that a virus can exist for as little as 2-5 seconds during which it spreads to another species. But this goes against the basic dogma that a virus cannot exist without a living cell. What living cell carries viruses? We have been looking for an answer to that question for over 30 years working with bovine leukemia virus (BLV) and consequently HIV model too, was confirmed that bacteria and yeast of the intestinal tract could be the host of the virus. Evidence was confirmed at the DNA level and protein level as well.

After transmission to humans, HIV enters hematopoietic cells containing the CD4 receptor and co-receptor on the host cell. Upon contact of viral grippers located on the surface of HIV bacteria with this receptor, the virus enters the recipient cell, where it induces the process of its destruction. After overcoming the infection by a conventional drug-based treatment approach such as HAART and activation of the immune system, the infection is suppressed. So far, there is no evidence that HIV-infected people have been completely free of the virus after HAART therapy. The reason is the existence of reservoirs in which the virus cannot be destroyed. The HIV reservoir is a group of immune cells that are infected with the HIV virus but do not actively produce new HIV. According to our results, the main reservoir of HIV located in viral carriers is in the gastrointestinal tract. This is the reason why so far there is no vaccine that would completely rid the infected person of the virus, because no vaccine in the gut and respiratory tract has an effect on HIV hidden in the carrier. HIV-transmitting bacteria may in the tract multiply, penetrate the body and infect *de novo* not only the host, but they can also be transmitted in the feces to other people. Surprisingly, no attention is currently being paid to a possible fecal infection.

Analysis of possible participation of bacteria bearing HIV in immunodeficiency, reduction of their amount (quantity) in intestinal tract of HIV/AIDS patients was performed by per oral application of probiotics bacteria *Escherichia coli* strain Nissle 1917. For this pilot study 18 HIV-infected ART-naïve patients were selected. The probiotics were applied per diem in a period of 3 months. The presence of probiotics bacteria in patient's intestinal tract was checked by the PCR. After three months of probiotics treatment the viral load decreased or remained on the detection limit (<400 c/ml) at 57.5% of tested patients and completely trimmed down about 67%. The viral load of the control group of 8 asymptomatic patients increased by 77% over the corresponding time. It is generally accepted that the HIV was transferred to humans from contact with monkeys about 70 to 100 years ago. However, this claim has not been sufficiently confirmed. The spread and incubation period and other symptoms of the Black Death have led to the theory that epidemic may have been caused by hemorrhagic viruses. Having examined detailed historical data, we have concluded that the bacterium *Yersenia pestis* was an infectious agent in the epidemic, together with another agent which we suggest was HIV. Our considerations are strongly supported by the CCR5 delta 32 mutation, which protects against HIV infection and based on mathematical model has been present in the Caucasian population for over 2000 years. The combination of

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the two infectious agents led to a devastating Black Death epidemic. The plague ultimately resulted in a reduction in the number of HIV carriers and an increase in the number of CCR5D32 mutations in the Caucasian population to 10% or to 15% to 20% in the northern regions of Europe. In sub-Saharan Africa, this epidemic and the subsequent sanitation process did not take place, what explains the absence of the CCR5D32 mutation. This results in a much higher level of HIV genetic information in this population. A virus, just like a parasite, is not a full-fledged biological form and thus hard to fight. Its main weakness is that it is hosted by bacteria or yeast. Bacteria and yeasts are a complete biological form and they can be eliminated. By destroying microbes carrying a virus by antibiotics the virus ceases to exist. Thus, many viral infections can be stopped.

### **Biography**

Vladimir Zajac has completed his PhD. in 1982 at the Cancer Research Institute of Slovak Academy of Sciences in Bratislava (Slovakia), where he worked as the Head of Department of Cancer Genetics from 1996 to 2010. He joined the Medical Faculty of the Comenius University as Associate Professor of Genetics in 2007. He has published 74 papers mostly in reputed journals and he was editor of the book "Bacteria, viruses and parasites in AIDS process" (In Tech, 2011).



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**BIOLOGICAL RISK IN ITALIAN PRISONS: DATA ANALYSIS FROM THE SECOND TO THE FOURTH WAVE OF COVID-19 PANDEMIC**

**Cristiano Franchi<sup>1</sup>, Riccardo Rossi<sup>1</sup>, Daniele Di Giovanni<sup>1,2</sup>, Andrea Malizia<sup>1</sup> and Pasquale Gaudio<sup>1</sup>**

<sup>1</sup>University of Rome Tor Vergata, Italy

<sup>2</sup>Unicamillus-Saint Camillus International University of Health Sciences, Italy

### Abstract

COVID-19 has severely strained the response capabilities of the entire Italian society and even more of those who have the responsibility to provide healthcare, safety and security to people. Places of detention represent a further challenge for Public Health resilience as they are a fragile system that risks imploding when facing additional threats. Italian management of COVID-19 in prisons triggered considerable concern and controversy at the very start of the outbreak when many riots resulted in 13 dead inmates, huge damages and prison breaks. After two years from the beginning of the pandemic, we have focused on available data regarding some epidemiological features that describe the outbreak course in Italian prisons to better understand the preparedness and capability to respond to such emergencies. The aim of this study is to evaluate the trend of  $R(t)$ , prevalence and hospitalisation rates, from the end of the second wave of the pandemic (October-November 2020) to the fourth wave (winter 2021/2022) in Italian prisons. Furthermore, we provide a comparison of those trends with those related to the prison staff and the Italian population to evaluate differences and analogies. The trends comparison between prison and Italian populations shows a high correlation that peaks after one or two weeks, with prison rates lagging. Moreover, the magnitude of these indices is controversial and needs further research. The high population density and the pre-existing health problems related to the prison environment represented significant concerns of an out-of-control SARS-CoV-2 outbreak. The preliminary comparison between the analysed indices seems to show a less harsh trend of the disease (hospitalization rate) in prison with respect to the general population. This result is probably due, in part to a different demographic stratification of inmates where elderly people are less represented, but it is not excluded that specific response arrangements have played a key role in monitoring the spread of the virus. The above-mentioned results seem to confirm that: 1) the sealing of prisons from the virus was impossible to achieve; 2) prison trends show there is a one-week delay for “infection” indices and two weeks delay for “disease” indices. This feature could be a useful mean to increase preparedness and countermeasures of first responders before an outbreak peak, 3) data indicate that all the countermeasures and the efforts that the Italian Prison Service put in place were probably effective to reduce the impact of COVID-19 to the health of inmates under the rates of Italian population.

### Biography

Cristiano Franchi is a PhD student at the University of Rome “Tor Vergata”, Department of Industrial Engineering (CBRNe research group). He completed degree in Biological Sciences (5 yrs) from University of Rome “La Sapienza”, Post-graduation in School of Specialization in Genetics (3 yrs) from University of Rome “La Sapienza” and Master in Protection against CBRNe events, at the University of Rome “Tor Vergata”. Previous he worked at Carabinieri Corps – Scientific Investigation Dept. – Biology Section. Currently, Cristiano Franchi is a Biologist at Ministry of Justice – Prison Service- Central Laboratory for the National DNA Database

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## THE CONTESTED MARKET OF PLASMA

**Jean Mercier Ythier**

*University of Paris Panthéon-Assas, France*

### Abstract

Voluntary, anonymous free gift-giving has become nowadays the dominant norm for blood donation for transfusion purposes, in view of its established ability to satisfy the needs in labile blood products in satisfactory conditions of safety and cost. But the economy of blood products is also the place of one of the main exceptions to the principle of non-commercialization of body parts. We show that there exists a genuine international plasma market, which provides the raw materials for the production of blood protein products by pharmaceutical industries. The recent years have seen a considerable strengthening of the massive and globalized features of this market. We briefly describe the issues that this evolution raises, and we sketch some directions for a partial resolution of them. We notably explain why the development of contract fractionation appears both possible and desirable from an economic perspective in the present context.

### Biography

Jean Mercier Ythier is professor of economics at the University of Paris, Panthéon-Assas, France. He graduated from the Institute of Political Studies of Paris (PhD, 1989). He was also a graduate student at Harvard University (1986-87). He went notably through positions of invited research fellow at the University of Montréal (Québec, Canada), assistant professor and associate professor of economics at the University of Paris Panthéon-Sorbonne and professor of economics at the University of Lorraine (France). Prof. Jean Mercier Ythier's research interests include the theory of general competitive equilibrium, microeconomic theory, public economic theory, economic philosophy, altruism, ethics, and topics of economic anthropology.

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**SARS-COV-2 PROTEINS INDUCE IL6 IN HUMAN PRIMARY MONOCYTES AND MACROPHAGES. IMPLICATIONS FOR CYTOKINE STORM SYNDROME**

**Marcin Ratajewski**

*Institute of Medical Biology PAS, Poland*

### Abstract

**Background:** During the course of COVID-19 infection, many patients experience deterioration, which might be associated with systemic inflammation and cytokine storm syndrome, which is caused by disturbances in the immunological cells balance and hyperproduction of pro-inflammatory cytokines, leading to multiorgan failure, and death. Among these cytokines, IL-6 is particularly important in the persistence of the pro-inflammatory milieu. Monocytes and macrophages, which are one of the main sources of IL-6 at inflammatory sites, are found in large numbers in the bloodstream and tissues and are often the first cells of the immune system to come into contact with virus particles.

**Objective:** To examine the effects of nucleocapsid and spike proteins of the coronavirus SARS-CoV-2 on the expression of IL-6 in human primary monocytes and macrophages.

**Methods:** Monocytes were isolated using the Classical Monocyte Isolation Kit. The cells were cultured in RPMI 1640 medium containing 10% FBS and 10% human AB serum for 3 days. For macrophage differentiation, monocytes were cultured in RPMI 1640 medium containing 10% FBS and 10% human AB serum supplemented with 10 ng/mL GM-CSF for 5 days. Cell culture supernatants from monocytes treated with N and S SARS-CoV-2 proteins for 3 days were analyzed by a Human Inflammation Array C3. Expression of the IL6 was analyzed using quantitative RT-PCR and the secretion of IL-6 was analyzed using a Human IL-6 Quantikine ELISA Kit.

**Results:** The N protein of the SARS-CoV-2 led to strong induction of IL6 mRNA expression and secretion of the IL-6 protein by the monocytes and macrophages, interestingly the S protein was less effective.

**Conclusion:** Determining the molecular mechanism of SARS-CoV-2-mediated monocyte and macrophage IL-6 expression, including identifying the receptors and signaling pathways, would allow for the rational design of pharmacological treatments for the cytokine storm that underlies the severe clinical manifestation of COVID-19 disease.

### Biography

Marcin Ratajewski is a professor at the Institute of Medical Biology PAS and is the leader of the Laboratory of Epigenetics. Dr. Marcin Ratajewski was awarded a PhD by the University of Lodz in 2009 and a habilitation by the Medical University of Lodz in 2019. His research focuses on different aspects of epigenetics, including: identifying and understanding key pathways involved in the development of melanoma resistance as well as mechanisms regulating the Th17 lymphocytes differentiation. He is also involved in several projects identifying of a new ligands for nuclear receptors, especially ROR $\gamma$ /ROR $\gamma$ T.



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## IN VITRO EVALUATION OF THE PLASMA AND BLOOD COMPATIBILITY OF NOVEL DENDRITIC NANOSTRUCTURES FOR DRUG DELIVERY

**Simon Suty**

*Comenius University in Bratislava, Slovakia*

### Abstract

**Background:** The dendritic architecture - dimension (directly proportional to generation) and surface functionalities - makes dendrons ideal carriers in biomedical applications. The presence of reactive surface groups enables conjugation of drugs or targeting moieties. For this reason, the dendron-polymer conjugates are favorable choices for many biomedical applications, including the production of novel nanotherapeutic platforms. Hemocompatibility represents the first criterion that must be met when optimizing dendritic nanoparticles for clinical use.

**Objective:** To support hemocompatibility tests with qualitative analysis of blood smears and with modeling blood flow upon addition of dendrons

**Methods:** We used an integrative approach combining biophysical and morphological investigations, coupled with standard hematology and coagulation assays. Since the blood viscosity and flow properties can be influenced by blood cell characteristics and plasma viscosity, we also decided to investigate the effect of the dendrons on flow properties of blood at various shear rates using rotational rheometer.

**Results:** The evaluated parameters were normal at all but one experimental configuration. When the 10  $\mu\text{M}$  concentration of the 2<sup>nd</sup> generation dendron was used, 10 samples exhibited platelet microaggregates and signs of hypogranulation. Our findings suggest that in the presence of this dendron some platelets might have been activated and caused changes in coagulation indices. This assumption has been supported by significant alterations in several blood and coagulation parameters at the above stated experimental conditions.

**Conclusion:** We have found out that there is a generation and concentration dependence of the effect of the amphiphilic phosphorous dendrons on blood and coagulation parameters resulting in the formation of platelet clumps in the whole human blood. This information is important for dosing and structure optimization of amphiphilic phosphorous dendrons to engineer effective carriers for delivery of therapeutic agents. This research was funded by grants NAWA EUROPARTNER, PPI/APM/2018/1/00007/U/001, APVV SK-BY-RD-19-0019 and SK-PL-18-0080, partially funded by SCST RB: B20-SLKG-002; by Agencies VEGA 1/0756/20, 01/0136/18 and KEGA 041UK-4/2020; as well as by a grant of Comenius University UK/437/2021.

### Biography

Simon Suty has earned his bachelor's and master's degree in biomedical physics at the Faculty of Mathematics, Physics and Informatics of the Comenius University in Bratislava, where he is now also at his 3rd year of his PhD study on Biophysics. He has attended and presented his results at several regional and international conferences in the field of biophysics and biomedicine. His focus is on the study of dendritic nanoparticles (dendrons and dendrimers) and the biocompatibility of these nanoparticles on different biological systems such as lipid membranes, liposomes and whole human blood. In the cooperation with his team, he has also published in international journals two scientific articles concerning above mentioned topics.

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**COMPARISON BETWEEN THE ANTICOAGULANT EFFECT OF  
PHOSPHOLIPASES A2 FROM SNAKE VENOM AND ANTICOAGULANT  
DRUGS**

**D P Marchi-Salvador**

*Universidade Estadual Paulista, Brazil*

**Abstract**

**Background:** Phospholipases A2 (PLA2s) play a central role in the symptomatology of snakebites because it acts on substrates by hydrolyzing phospholipids of biomembranes. Plasmatic coagulation occurs by the activation of clotting factors in the presence of calcium and phospholipids.

**Objective:** Evaluated the anticoagulant effect of three PLA2s isolated from *Bothrops jararacussu* snake venom and proposed a probable mechanism of the anticoagulant action of these proteins.

**Methods:** The plasma Prothrombin Time (PT) and Activated Partial Thromboplastin Time (aPTT) in the presence of three PLA2s (BthTX-I a Lys49-PLA2; BthTX-II a basic Asp49-PLA2 and BthA-I an acidic Asp49-PLA2 – 0.25, 0.5, 1.0, 2.0 and 4.0µg) and two anticoagulant drugs (apixaban – 1.0, 10, 20, 40 and 80µg and rivaroxabana - 0.20, 0.25, 0.30, 0.35 and 0.40µg) were evaluated using a mechanical and semi-automatic coagulometer following the kit's manufacturer methodology. Plasma and PLA2s or drugs were incubated for five minutes at 37°C. The PT or aTTP reagents were added, and the clot formation time was obtained.

**Results:** BthA-I was classified as weakly anticoagulant (plasma PT and/or aPTT extended by up to 2 times when compared with the control); BthTX-I was moderately anticoagulant (2 to 4 times) and BthTX-II was strongly anticoagulant (greater than 4 times). The apixaban or rixaroxaban presence caused extended plasma PT and aPTT in all evaluated quantities.

**Conclusion:** BthTX-II required 10 times more quantities (micrograms) than apixaban to produce a similar anticoagulant effect. PLA2s can interfere in the coagulation cascade by three independent mechanisms, or a combination of them: i) inhibition of the tenase complex formation observed in BthTX-I and BthTX-II; ii) allosteric modulation of Factors IXa and Xa induced by the interaction of BthTX-I; iii) hydrolysis of phospholipids and/or competition of catalytically active BthA-I with the clotting factors at the lipid surface.

**Biography**

Daniela P. Marchi Salvador – Biologist, Universidade Estadual Paulista (2000), a Master's and PhD degree in Biological Sciences (Genetics), Instituto de Biociências de Botucatu (IBB) - UNESP (2005 and 2008). Postdoctoral degree in Toxicology, Faculdade de Ciências Farmacêuticas de Ribeirão Preto (FCFRP) - USP (2010), and postdoctoral degree in Molecular Biology, University of Central Florida (UCF, Orlando, FL - USA). Associate Professor of Biophysics, Federal University of Paraíba, UFPB. Editorial board of Journal Venoms and Toxins (ISSN: 2666-1225\_Online; ISSN: 2666-1217\_Print). Experience in Biophysics and Biochemistry, with emphasis in structural molecular biology, mainly in X-ray Crystallography – macromolecules.



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**METAL-OXIDE NANOPARTICLES ARE EMERGING APPLICATIONS OF NANOMEDICINE TO TREATMENT OF VIRAL DISEASES**

**Naushad Khan**

*Department of Biotechnology, Jamia Hamdard, India*

**Abstract**

Nanomedicine (1 to 1000 nm) is the branch of medicine that is used for diagnostic and therapeutic purposes. Nanoparticles (NPs) can be moderate to accumulate in specific target tissue via tailored particle size or functionalization and used to deliver a particulate active ingredient to a particular part of the body. A lower dose permits the administration to reduce the side effect therefore the lower possibility of drug accumulation in off targets.

Virus diseases are extremely widespread infections worldwide and they are caused by many types of viruses that burden globally on public health. Emerging and re-emerging viral diseases are a great public health concern and millions of people are affected annually. The environmental and economic impact of these diseases is greater in developing countries. The most affected children and adults basically compromised immune systems. The emerging and re-emerging viral disease treatments are obstructed by resistance to simultaneous multiple drugs, and desperate need to manufacture/develop new therapeutics that can overcome drug resistance.

The objective will focus on the recent report of viral disease treatment based on Metal oxide nanoparticles and their biological efficacy (*in vitro* and animal model). Metal-based nanoparticles (NPs) have been disclosed to inhibit/suppress many virus replication and enhance the potency of antiviral drugs useful for therapeutic and prophylactic application. The antiviral activity exhibits by interaction with virion on the surface therefore inhibiting the receptor binding sites on the virus and suppressing the early stages. There is an urgent need to study the pharmacokinetics and toxicological properties of metal based compounds. NPs have the potential to overcome drug resistance which is common with most organic molecules. There is no doubt that treatment of infectious diseases based on metal-based nanoparticles are promising future therapeutics.

**Biography**

Naushad Khan is working as a postdoctoral fellow at University of California, Irvine CA. His Phd dissertation was completed from the Department of Biotechnology, School of Chemical and Life Sciences, Jamia Hamdard University, India. He completed the M.PHIL from Jamia Millia Islamia University, India. Currently, I have published and communicated many articles in peer review journals and participate as a speaker in the National and International Conferences. Since 2011, I have engaged in virology and medical research.

***Day-1***  
***Poster Presentations***

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**ACCESS TO SERVICES FOR INFECTIOUS DISEASES DURING PANDEMIC IN ALBANIA. THE NEED FOR EMERGENCY PREPAREDNESS.**

**Pellumb Pipero and Alban Ylli**

*Tirana University of Medicine, Albania*

### **Abstract**

**Background:** Covid-19 pandemic has affected the access to health services, risking to disrupt the provision of care for many health pathologies. Up to now, there are no data from Albania about the changes in access to health services during the pandemic. The objective of this work is to provide quantitative estimates about the drop in utilisation of health care for infectious diseases other than Covid-19.

**Methodology:** We used hospitalisation data on infectious diseases as reported to Institute of Public Health from all hospitals in the country. The data are for the period 2015-2020 and include all infectious diseases coded 001-139 in International Code of Diseases (ICD9).

**Results:** There were reported only 4534 hospitalisations with an infectious disease in Albania in 2020. The figure represents a drop of 65% compared to the previous five years average, and it is the lowest on record. Almost all infectious diseases categories show the same trend, with the exception of viral meningitis and some rickettsioses. Among high incidence categories, those which have decreased the most are bacterial gastroenteritis, brucellosis, and varicella, respectively 82%, 84% and 77% less than the 5 years mean. Hospitalisation from erysipelas has fallen by 67%, HIV/AIDS 63%, sepses 55% and tuberculosis 50%. The smallest decrease is noted for hepatitis and leishmaniosis, respectively 22% and 35%. There are no significant differences between men and women.

**Conclusion:** The reduction of infectious disease related hospitalisation can be explained by a number of factors which include reduced care provision capacity and increased perceived risk during utilisation of care. Preparedness strategies for future emergencies should include safe access to health care for infectious disease patients.

### **Biography**

Pellumb Pipero is a specialist medical practitioner of infectious diseases at Tirana University Hospital. He teaches infectious diseases at Faculty of Medicine, Tirana University of Medicine. After graduation in Tirana he has been trained in Belgium, Italy, Spain and USA. Prof. Pellumb Pipero has published more than 60 papers in national and international medical journals and has authored 10 textbooks and clinical manuals. He has also participated in more than 100 international conferences with more than 30 oral presentations. He has good knowledge of infectious diseases epidemiology and control in Albania during the last 25 years. Additionally, his experience encompasses health policy development and health system management, after serving for 5 years as general director of health policies at Ministry of Health of Albania. Most recently, during the pandemic years, Prof. Pipero has been systematically present in mass media, communicating with public and other professionals on questions about Covid-19.

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## Current status of HIV-1 vaccines

**Shumaila N M Hanif<sup>1</sup>, Anna Hargrave<sup>1</sup>, Abu Salim Mustafa<sup>2</sup>, Asma Hanif<sup>2</sup> and Javed H Tunio<sup>3</sup>**

<sup>1</sup>*Kentucky College of Osteopathic Medicine, University of Pikeville, USA*

<sup>2</sup>*Kuwait University, Kuwait*

<sup>3</sup>*University of Iowa, USA*

## Abstract

In 2020, 37.6 million people were living with HIV infections, and 1.5 million people acquired HIV infections within the year. Since the HIV epidemic began, 34.7 million people died due to an AIDS-related illness. It has been estimated that 85% of all HIV cases are transmitted sexually. In contrast, the other 15% of cases are transmitted from shared injection needles, infected blood transfusions, or from mother to child. current antiretroviral drug regimens are able to suppress virus levels to incredibly low levels and prevent HIV-1 infection transmission, it does not replace the need for an effective vaccine. Given that developing countries have Though approximately 90% of people with HIV-1 infections and antiretroviral drugs are inaccessible, it is clear that a vaccine is required to end this epidemic. HIV-1 infection and its progression to AIDS remains a significant global health challenge, particularly for low-income countries. Currently, there is no prophylactic HIV-1 vaccine despite several decades of research because of the immense challenges with biological infection, unforeseen clinical trial disappointments, and funding issues. This study provides an overview of historical approaches in HIV-1 vaccine development and various vaccine strategies in clinical trials.

***Day-2***  
***Oral Presentations***



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RELATION BETWEEN LIPID PROFILE, BLOOD PRESSURE AND  
RETINOPATHY IN DIABETIC PATIENTS IN KING ABDUL-AZIZ UNIVERSITY  
HOSPITAL; A RETROSPECTIVE RECORD REVIEW STUDY

**Dania W. Alsulami**

*King Abdulaziz University Hospital, Saudi Arabia*

**Abstract**

**Background:** Diabetic retinopathy (DR) is a major cause of blindness worldwide, threatening the vision of approximately 10% of patients with diabetes. Many studies have demonstrated that intensive control of the risk factors for DR is essential to reduce the onset and progression of DR. Currently, the relationship between lipid profile and DR is still unclear, especially in Saudi Arabia. We aimed to assess the correlation between both the development and severity of DR with lipid profile and blood pressure among the diabetic patients at the King Abdul-Aziz University hospital in Jeddah, Saudi Arabia.

**Methods:** This was a retrospective record review study of 298 diabetic patients diagnosed with DR. Retinal findings were correlated to serum lipids levels using univariate, bivariate, and multivariate analysis.

**Results:** This study included 298 participants with DR. Triglyceride levels, systolic blood pressure, low-density lipoprotein cholesterol levels, and presence of macular edema were significantly associated with DR progression ( $P=0.012$ ,  $P=0.001$ ,  $P=0.002$ ). Other parameters, including total cholesterol, high-density lipoprotein cholesterol, HbA1C, body mass index, age, were not significantly associated with DR.

**Conclusion:** Elevation in serum triglyceride levels and systolic blood pressure showed a statically significant association with diabetic retinopathy. Controlling these factors may help preventing progression and occurrence of diabetic retinopathy among diabetic patients.

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## SEXUAL DYSFUNCTION AND HEPATITIS C VIRUS INFECTION

**Gheorghe Giurgiu<sup>1</sup> and Manole Cojocaru<sup>2</sup>**

<sup>1</sup>Deniplant-Aide Sante Medical Center, Romania

<sup>2</sup>Titu Maiorescu University, Romania

### Abstract

**Background:** Hepatitis C is a liver disease caused by the hepatitis C virus. A significant number of those who are chronically infected will develop cirrhosis or liver cancer. Sexuality is an important aspect of the quality of life.

**Objective:** The virus itself may play a direct role in causing sexual dysfunction. The frequency of sexual dysfunction is not very well known in patients with chronic hepatitis C. Hepatitis C virus infection is a global health burden that affects quality of life, with a negative impact on sexual functioning. Sexual dysfunction appears to be more frequent among chronic hepatitis C virus infection patients than among the general population.

**Methods:** Several studies have suggested that chronic hepatitis C virus infection may be associated with sexual dysfunction in men. The prevalence of sexual dysfunction and dissatisfaction with sexual life in patients with chronic hepatitis C virus infection was jointly investigated via a thorough psychopathological analysis.

**Results:** The male sex hormone (testosterone) is typically lowered with advanced liver disease, while the female sex hormone (estrogen) typically increases. Because alcohol abuse further lowers testosterone levels, alcoholic men with hepatitis C who have progressed to advanced liver disease are particularly vulnerable to sexual dysfunction issues.

**Conclusion:** The increasing prevalence of, the possibility of hepatitis C virus infection should be considered in the differential diagnosis of sexual dysfunction. This study reviews the literature on epidemiology and pathogenetic factors of sexual dysfunction in patients with chronic viral hepatic diseases.

### Biography

Gheorghe Giurgiu is a scientific pioneer with inventions and innovations in several fields, mechanics, electronics, weapons and medicine. He is the creator of the natural remedies Deniplant, for the treatment of autoimmune, metabolic and neurological disorders. He is the research director at the Biomedicine Center Deniplant Aide-Sante in Bucharest, Romania. He has published articles on the natural modulation of the intestinal and skin microbiota in dermatological and neurological disorders.

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**LETIN: A MOLECULAR TOOL IN CANCER DIAGNOSTIC AND THERAPY**

**Shubhangi Pingle**

*National Institute of Occupational Health, India*

**Abstract**

Lectins are cellulose-binding protein that is strongly determined in saccharide groups for which glycans, glycopeptides, glycolipids, glycosides, fucosyls, sialylated glycans or polysaccharides hydrogenated cells, or condensed. This review has focused on the characteristics of lectin and its involvement in the detection and therapy of cancer. The prevalence of cancer deaths globally and domestically is highest especially due to the lateness of diagnosis, lack of facilities, and treatment for women reproductive cancers. In concomitance of events in cells, carbohydrates, and proteins, lectins play an important role. Some lectins have in-vitro antibody resources, in-vivo, and curative agents pre-owned. Lectins bind superiorly to the cancer cell membrane or their receptors, induce cytotoxic agent, caspase-mediated cell death, and prohibiting tumor development. This amalgamation can increase cell manifestation, leading to agglutination of the cancer cell. Lectin snuffing also reveals polyamine stocks and so impedes the growth of cancer cells. They also affect the cell cycle by non-apoptotic aggregation, seizure of the cell cycle phase G<sub>2</sub>/M, and the mediation of caspases. It can also adversely affect the action of telomerase and hinder vascularisation. They promote immunomodulation and limit protein synthesis adversely. The simple availability of lectin and its characteristics, however, support its use in cancer diagnosis and therapy, despite its small corollary effects. Future investigations recommend focusing more on the key applications of lectin by reducing its concurrent effects and carrying out more in vitro investigations. However, the use of lectins formulations for cancer theranostics is an emerging field in the early diagnosis and treatment of cancer.

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BEYOND POLYMERASE CHAIN REACTION-BASED DIAGNOSIS; TIME FOR ACCREDITED AND HIGHLY-SENSITIVE DIAGNOSIS OF COVID-19

**Maryam Mohammadi<sup>1</sup>, Sahar Serajian<sup>2</sup>, Mahsa Jalilinejad<sup>2</sup>, Zahra Dorosti<sup>3</sup>, Sina Ekhlasi<sup>1</sup>, Pourandokht Farhangian<sup>4</sup>, Samira Lorestani<sup>4</sup>, Nasim Mohammadi<sup>5</sup>, Masoud Shamohammadi<sup>6</sup>, Sheida Janati<sup>7</sup> and Nazila Bahmaie<sup>8</sup>**

<sup>1</sup>Tehran Medical Sciences Branch, Islamic Azad University, Iran

<sup>2</sup>Royan Institute for Stem Cell Biology and Technology, Iran

<sup>3</sup>Isfahan University of Medical Sciences, Iran

<sup>4</sup>Zanjan University of Medical Sciences, Iran

<sup>5</sup>Kerman University of Medical Sciences, Iran

<sup>6</sup>Razi University of Kermanshah, Iran

<sup>7</sup>Institute of Immunology and Infectious Diseases, ACECR, Iran

<sup>8</sup>Graduate School of Health Science, Near East University (NEU), Cyprus

## Abstract

**Background and Aim:** Due to high rate of mortality and morbidity of novel coronavirus disease 2019 (COVID-19), accurate and early diagnosis with reduced Turnaround Time (TAT) should be conducted by the usage of some combinative approaches especially for suspected cases, or the ones with other respiratory pathogens.

**Methods:** Data were collected from 7 search engine/databases, commencing from December 2019 to November 2021 according to Medical Subject Headings (MeSH) terms and our inclusion/exclusion criteria.

**Results:** Since negative reports from molecular tests in patients suspected with COVID-19 should not be utilized as the only criterion for patient discharging, differential diagnosis for patients presenting early-onset typical clinical characteristics of COVID-19 is critical. Additionally, there are inconsistency in RT-PCR results due to viral mutations in the primer and probe target regions, timing for peak viral load, and the presence of amplification inhibitors in the samples. Accordingly, multiple-target gene amplification through multiplex rRT-PCR can be used for the mitigating the risk of loss of sensitivity. Targeting one human (RP or ABL1 as internal controls) and two viral (among RdRp, Sarbecovirus specific E, and SARS-CoV-2 specific N or E) genes in a singlereaction tube concomitantly by using the specific fluorescence dyes (probes) increases diagnostic sensitivity. In addition, for patients with negativity in their first RT-PCR testing, CT identifies typical features of COVID-19 pneumonia. Moreover, in loop-mediated isothermal amplification coupled with the proofreading-based assay for SARS-CoV-2 detection, we have better results because of blue light of real-time monitoring/multiple fluorogenic probes, and detection of lownumber of viral copies/other respiratory infections due to the available number of cartridges in patients suspected with COVID-19.

**Conclusion:** Efficacy of the diagnostic procedures for COVID-19 can be improved by simultaneous detection of two or more specific sequences through multiplex RT-PCR test combined with other clinical and laboratory-based diagnostics.



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### **Biography**

Maryam Mohammadi is a BSc student of Microbiology, Department of Microbiology, Faculty of Basic Medical Science, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran. She is a co-author for a newly-accepted Comprehensive Systematic Review Article "Clinical and Laboratory-based Diagnosis in Cases Suspected with COVID-19; A Comprehensive Systematic Review Study" in the "Fortune Journal of Health Science", ISSN: 2644-2906, IF (2020): 5.81.



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**ENERGY ALTERATIONS IN PATIENT WITH PYOMYOSITIS AND WHY THIS INFECTION DOES NOT RESPOND TO ANTIBIOTICS TREATMENT?**

**Huang Wei Ling**

*Medical Acupuncture and Pain Management Clinic. Franca, Brazil*

**Abstract**

**Introduction:** Pyomyositis is a bacterial infection caused mainly by gram-positive bacteria of the skeletal muscle and can lead to abscess formation.

**Purpose:** the purpose of this study is to show that patient with pyomyositis can have energy deficiency in the internal five massive organs, responsible for the production of Yin, Yang, Qi and Blood, important to maintaining our health and the reduction of these energies are responsible for the formation of internal Heat or Fire, leading to clinical manifestation of infections symptoms.

**Methods:** through one case report of 72 years-old female patient with chronic pyomyositis formation in the left coxofemoral region since 2020. She was submitted to antibiotics and drainage of the infection and abscess formation since the beginning of this infection without any improvement of her infection symptoms (the last antibiotics used was vancomycin for 4 weeks). The infectious disease doctor told her that he does not have any other kind of treatment to do in her case. It was measured her internal five massive organs energy using a crystal-pendulum when she went to my clinic.

**Results:** all her internal massive organs were in the lowest level of energy, rated one out of eight. The treatment of her condition using Chinese dietary counseling, auricular acupuncture with apex ear blood-letting, systemic acupuncture and homeopathy medications called Sulphur 6CH 5 globules three times per day. It was also used homeopathy medications according to the theory *Constitutional Homeopathy of the Five Elements Based on Traditional Chinese Medicine* (CHFEBTCM) and crystal-based medications. All tools used was important to complete recovery of her infection without using any kind of antibiotics.

**Conclusion:** the conclusion of this study is that patient with pyomyositis have energy deficiency in the five massive organs leading to the formation of Heat retention or Fire and the treatment of this condition, rebalancing these energies and take out the Heat ( using appropriate diet and using apex ear blood-letting) and replenishing the internal five massive organs using homeopathy medications (CHFEBTCM) are very important tools nowadays to treat the cause of the pyomyositis manifestations and not just the symptoms.

**Biography**

Huang Wei Ling, born in Taiwan, raised and graduated in medicine in Brazil, specialist in infectious and parasitic diseases, a General Practitioner and Parenteral and Enteral Medical Nutrition Therapist. Once in charge of the Hospital Infection Control Service of the City of Franca's General Hospital, she was responsible for the control of all prescribed antimicrobial medication and received an award for the best paper presented at the Brazilian Hospital Infection Control Congress in 1998. Since 1997, she works with the approach and treatment of all chronic diseases in a holistic way, with treatment guided through the teachings of Traditional Chinese Medicine and Hippocrates. Researcher in the University of São Paulo, in the Ophthalmology department from 2012 to 2013. Author of the theory *Constitutional Homeopathy of the Five Elements Based on Traditional Chinese Medicine*. Author of more than 100 publications about treatment of variety of diseases rebalancing the internal energy using Hippocrates thoughts.

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**WHOLE-GENOME SEQUENCING: THE KEY ROLE OF VACCINE AND ANTIVIRAL RESEARCH**

**Naushad Khan**

*School of Chemical and Life Sciences, India*

**Abstract**

Chikungunya virus (CHIKV) an arthropod-borne *alphavirus* is responsible for the emerging disease such as chikungunya fever. Chikungunya symptoms include fever, joint pain, nausea, muscle pain, and rash. Arthralgia is a major symptom of this disease. Some patients recover early while others suffer for a very long time. There is an urgent need to understand the epidemiology, factor of pathogenesis and serious consideration must be given to identifying potential options for vaccines and therapeutics. To find out conserved B cell and T cell epitopes of CHIKV structural proteins through immuno-informatics and computational approaches, which may play an important role in evoking the immune responses against CHIKV to the discovery of various epitopes, conserved among various strains belonging to different countries. The potential antigenic epitopes can be successfully utilized in designing novel vaccines for combating and eradication of CHIKV disease. CHIKV, nonstructural proteins are major responsible for the replication of disease. It has the helicase, protease, and RNA dependent RNA polymerase activity. For virtual screening of the compound library against non-structural proteins of CHIKV were performed. Homology models of the viral proteins with unknown structures were created and energy minimized by molecular dynamics simulations. Molecular docking was performed to identify the potential inhibitors for CHIKV. The absorption, distribution, metabolism, and excretion (ADME) toxicity parameters for the potential inhibitors were predicted for further prioritization of the compounds. The potential compounds or epitopes identifying show promise as potential antivirals or vaccine, but further in vivo studies are required to test their efficacy against CHIKV.

**Biography**

Naushad Khan Is working as a postdoctoral fellow at University of California, Irvine CA. My Phd dissertation was completed from the Department of Biotechnology, School of Chemical and Life Sciences, Jamia Hamdard University, India. I completed the M.PHIL from Jamia Millia Islamia University, India. Currently, I have published and communicated many articles in peer review journals and participate as a speaker in the National and International Conferences. Since 2011, I have engaged in virology and medical research.

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**ALCOHOL USE DURING COVID-19 PANDEMIC IN THE SMOKING CESSATION CLINICAL TRIAL FOR PEOPLE LIVING WITH HIV (PATCH)**

**Maria Jose Miguez**

*Florida International University, USA*

**Abstract**

**Background:** The intersection of COVID-19 and hazardous alcohol use (HAU) is a critical issue given data indicating that sales of alcoholic beverages have risen during the COVID-19 pandemic. Moreover, fear and misinformation have generated a dangerous myth that consuming high-strength alcohol can kill the COVID-19 virus.

**Objective:** Given the current threat of COVID-19, our study was poised to provide unique and informative results regarding participants' use and misuse of alcohol and if they directly related the changes to the stress associated with the coronavirus.

**Methods:** We assessed 250 HIV infected individuals from the PATCH smoking cessation clinical trial. A COVID survey was administered in 2021 to elicit: a) information on health indicators, b) alcohol and tobacco use, and c) individuals' perceptions of COVID risk to see if they can moderate such behavior. Data from the last visit pre-COVID was used to supplement the analyses.

**Results:** The study sample included 137 males and 113 females age, 51±9 years who were not hazardous drinkers at enrollment. However, since the COVID-19 pandemic started, a sizable proportion (30%) of these participants had a significant increase in alcohol consumption to hazardous levels. Drinkers reported two or more beverages per day with some reporting as many as 8 drinks per occasion. Of concern, when we asked if alcohol decreases the risk of COVID-19 infection half answered that they do not know. When we enquired if alcohol increases the risk of infection, only 21% answered yes. In addition, 25% of people reported using alcohol as a coping strategy to deal with anxiety, stress, and loneliness during this pandemic. An additional 5% are consuming alcohol to cope with grief.

**Conclusion:** A higher proportion of hazardous alcohol use has been detected during the pandemic. The observed misinformation is disconcerting and suggests that these adults are probably engaging in drinking because they foresee no harm in such behavior.

**Biography**

Maria Jose Miguez is professor at Florida International University and Director of the Neuroimmunology, Health & Behavior Initiative. She is a medical immunologist with expertise in HIV and interest in improving HIV infected people health and well-being. She has been studying viral and immune responses and the effects of other comorbidities such as tobacco and alcohol abuse. Research interests include neuroimmunology, infectious diseases and behaviors.

***Day-2***  
***Poster Presentations***



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**HIV INFECTION IN ADOLESCENTS IN CUBA, 1987 TO 2018 - AN  
EPIDEMIOLOGICAL APPROACH**

**Alba Cortés Alfaro**

*National Institute of Hygiene, Epidemiology and Microbiology, Cuba*

**Abstract**

**Introduction:** Adolescence, a period of turbulence with affective ambivalence, which together with the early onset of sexual inter-course and their unprotected practice makes them a vulnerable stage to HIV.

**Objective:** To characterize the epidemiological behavior of HIV in adolescence (10 to 19 years) from 1987 (reporting the first cases in Cuba at these ages) to December 2018.

**Method:** Retrospective descriptive study of the total number of adolescents diagnosed with HIV in Cuba in the period January 1987 to December 2018. The information was obtained from the record of sexually transmitted infections (STIs) and HIV/aids of the National Epidemiology Directorate of the Ministry of Public Health (MINSAP).

**Results:** The universe was made up of the 2090 cases diagnosed with male predominance for a 63.3% with low percentages in the ages of 10 to 14 years with 38 cases (1.8%) throughout the epidemic. The 68.6% (1,434 cases) remain in asymptomatic status and 656 cases have developed AIDS for 31.4%. Of those who died by AIDS alone, 14.5% (303 cases) have died from this cause. In 2018, the highest percentages (70.2%) still are in Outpatient Care.

**Conclusion:** A predominance of the male sex, with the source of transmission fundamentally homosexual and the highest percentage of those diagnosed with HIV in an outpatient care status.



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