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6th Euro-Global Conference on

# **INFECTIOUS DISEASES**

September 07-09, 2017 | Paris, France

# Keynote Forum Day 1

Euro Infectious Diseases 2017

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Ishwar Gilada

Unison Medicare and Research Centre, India

### Global control of HIV, HCV and infectious diseases: India is not a problem, but a solution

The global AIDS Epidemic has completed 36 years of its devastating presence killing over 35 million people. Yet India has brought hope to millions, for making HIV- a chronic, manageable and affordable disorder. Last decade has witnessed astounding evolution in ART, from treating few to 'Treat-All' culminating in the WHO's 90-90-90 by 2020 target, piggybacking on India's strength. Fixed dose combination like anti-TB treatment, invented in India made ART affordable at 1% of innovators' cost, accessible meets 80% of global ART and easier with single-dose regimen. Innovators called Indian Generics copy-cats. When 'West copies East', why apply different yardsticks? Indian pharma risked inviting litigations, circumvented patents using reverse engineering and steadily brought down cost, with 100% bio-equivalence. Cheapest FDC annual cost is down from US\$ 10,439/- per patient to \$69. 'Magic' cure for HIV is distant, but there are strategies and possibilities to end the epidemic. Indian ARVs are available including the newest Dolutegravir at 2% of innovator's cost. For HCV cure, full course Sofosbuvir costs USD 84,000 globally, but in India its USD 1000 per patient through innovator's voluntary licenses and USD 300 by patent violator, at 0.3% of International cost. Treating HIV-HCV is a public health imperative to prevent new transmissions, morbidity and mortality and delay will have grave public health consequences. Imagine a scenario of millions of HIV-HCV infections, minus India! Millions more would have died leading African continent towards extinction. The world recognized the Indian pharma strength in saving millions for decades from range of health issues only after HIV. In patents versus patients, the balance tilts towards patients to bridge the enormous gap. It's a herculean task and will only be possible by an intensive and joint efforts of all including innovators. India will continue humanitarian mission to make life saving medicines affordable and accessible.

#### **Biography**

Ishwar Gilada is a Medical Doctor, specialized in Skin and STDs with special training in HIV management. He is the founder of India's first private sector comprehensive HIV Care clinic, President of AIDS Society of India and is Secretary General of Peoples Health Org. India. He was the Jt. Sec. of National AIDS Committee, Govt of India (1995-97). He was the first to raise alarm against AIDS in 1985, is known for bringing India on AIDS control map, had started India's first AIDS Clinic-1986 and has expertise in HIV care in resource-poor settings. He had trained several Doctors, Nurses and Social workers. He was Editor-Publisher of AIDS ASIA from 1993 to 2008. He has initiated, managed, supervised, evaluated over 40 HIV/AIDS projects in India, addressed over 3700 public meetings and training programs in India and abroad, has 280 scientific papers at conferences, written chapters in books on AIDS/STDs. He was consultant for American Foundation for AIDS Research (AmFAR), World Vision, USAID; has more than 65 awards to his credit including the "Outstanding Young Person of the World" –Glasgow in 1995 and Annemarie Madison Award-Germany in 1999 in Munich, Germany where he was termed as 'the Indian Machinegun against AIDS'.

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## Catherine Mullié

University of Lille, France

## Comparison of efflux pumps expression in ciprofloxacin-resistant *Pseudomonas aeruginosa* clinical and environmental strains from Algeria and France

**Statement of the Problem:** *Pseudomonas aeruginosa* is a Gram-negative ubiquitous microorganism found in various environmental niches as well as in human infections. It is innately resistant to many commercially available antibiotics and has acquired a wide array of resistance mechanisms, tremendously complicating the clinical handling of *P. aeruginosa* infections. Antibiotic resistance can be mediated by several molecular mechanisms, one of them being the efflux of antibiotics from the bacterium through efflux pumps. In *P. aeruginosa*, antibiotic efflux is mainly mediated by pumps belonging to the Resistance-Nodulation-Division family: *MexAB*-OprM, MexCD-OprJ, MexEF-OprN and MexXY-OprM. This work aimed to compare their expression in environmental and clinical strains of *P. aeruginosa* from Algeria and France either resistant or susceptible to fluoroquinolones to evaluate whether expression patterns would vary according to the sample origin and/or country.

**Material & Methods:** Clinical strains were collected from Amiens and Lille hospitals for France and Saida hospital for Algeria. Environmental strains were mostly isolated from water samples. Susceptibility to ciprofloxacin was evaluated by E-test and the broth microdilution method with and without an efflux inhibitor. Efflux pumps expression was then measured through a qRT-PCR experiment, using *mexB*, *mexD*, *mexF* and *mexY* as target genes.

**Findings:** 149 clinical and 30 environmental *P. aeruginosa* strains were included. According to EUCAST breakpoints, 29.8% and 11.1% of French and Algerian clinical strains were resistant to ciprofloxacin, respectively. None of the environmental strains were resistant to ciprofloxacin. Analysis of qRT-PCR data showed that mexY expression was significantly increased in a majority of ciprofloxacin-resistant clinical strains while *mexA* was decreased.

**Conclusion & Significance:** This study showed that ciprofloxacin-resistant strains were more common in clinical *P. aeruginosa* isolates than in environmental one. The design of efflux inhibitors targeting MexXY-OprM efflux pump could therefore be of use to restore the activity of known antibiotics.

### **Biography**

Catherine Mullié has obtained her PhD in Microbiology and a PharmD at the University of Lille, France, in 1999 and Post-doc at the Faculté de Medicine in Amiens (Laboratoire d'Immunologie, INSERM-EMI 0351). She was appointed as Assistant Professor at the Faculté de Pharmacie in Amiens in 2000 and joined the LG-2A (Laboratoire de Glycochimie des Antimicrobiens et des Agroressources, UMR 7378 CNRS) in 2008. She has been a Member of the French Society for Microbiology since 2000. Her research is focused on the development of new antimicrobial and antimalarial drugs, with a special interest in efflux-mediated antibiotic resistance in *Pseudomonas aeruginosa* and Acinetobacter baumannii. She is currently the Head of a bilateral project funded by France and Algeria (Partenariat Hubert Curien Tassili) on this topic.

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# Keynote Forum Day 2

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## **INFECTIOUS DISEASES**

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## Janak Kishore

Sanjay Gandhi Postgraduate Institute of Medical Sciences, India

## Clinical impact of parvovirus B19: Pioneer work from India projecting B19 as multi-organ disease afflicter

 $\mathbf{P}$  arvovirus B19 (B19) causes myriads of clinical diseases depending hosts immunological and haematological status. Still most B19 infections under diagnosed and seldom treated and largely ignored due to undefined clinical impact and its sinister complications besides limited diagnostic facilities and high cost of treatment by IVIG and even lack of awareness in clinicians of all varied spectrum of B19 clinical manifestations are additional riders. Cryptically, B19 causes significant morbidity/mortality and remains unrecognized global health problem. To unveil, we developed in-house diagnostic tools like DNA extraction from serum samples, PCR, nested-PCR, IgM ELISA and IgG ELISA for specific detection of B19 DNA and IgM antibodies to determine cases with acute infections and past infection. Then we determined B19 seroprevalence among 1000 voluntary blood donors and found 39.9% to be seropositive. Now this means that remaining 60% of Indians population and similarly half of world adult population are at risk of acquiring B19 infections. We reported B19 cases ending fatally with pure red cell aplasia, anaemia/thrombocytopenia with hepatitis and hemophagocytic syndrome. We detected B19 infections in 27.5% juvenile rheumatoid arthropathy (n=69), 19.8% recurrent aborters (n=116) in contrast to 11% of 136 pregnant-women and 5% of 120 non-pregnant women; another report found B19 in 60% high-risk pregnant women (n=60), 17.1% paediatric haematological malignancies (n=35), 41% beta-thalassemia major (n=90) besides transmission through donor units. Our novel clinical associations of B19 included cases of megakaryocytic thrombocytopenia, myositis, non-occlusive ischemic gangrene of stomach/bowel besides novel oncolytic property of B19. Cumulatively our data found 21.2% (135 of 639 cases) B19 infected patients. B19 primarily recognized as tropic for erythroid progenitor's due to binding to Gb4Cer and α5β1 integrins receptors. This first review highlights recent data by which B19 is causing non-erythroid and multi tissue or multiorgan disease owing to ability of B19 binding to multiple glycosphingolipids distributed widely; additionally B19 can infect vascular endothelial cells that lines all blood vessels hence can affect major organs by causing endothelilitis and vasculitic injuries. Cytotoxicity, nuclease, helicase, gene transactivation by B19 NS1, antibody-dependent enhancement are basic mechanisms. Hence B19 infections should be investigated recognised, treated besides efforts on B19 vaccine.

## Biography

Janak Kishore is a Chief of Serology and Molecular Virology in the department of Microbiology, Sanjay Gandhi Post-graduate Institute of Medical Sciences, India. He was an Associate Editor Indian Journal of Virology, Member National Academy Medical Sciences, American societies and Fellow of JICA, Japan. His passion is on healing and minimising human sufferings; on unveiling emerging viral infections and finding aetiologies in viral epidemics and in investigating undiagnosed/missed clinical infections so that appropriate treatment is given and life is saved. He has taught for over 30 yrs with pioneer work on parvovirus B19, developed in-house molecular techniques and published three novel clinical associations besides finding novel oncolytic property of B19. He also worked on *cytomegalovirus*, enteroviral haemorrhagic conjunctivitis, rubella. He has published over 50 papers, served as reviewer for reputed journals, organized conferences, Chaired sessions and frequently invited to speak at international conferences.

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# Keynote Forum Day 3

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# Huseyin Kayadibi

Hitit University School of Medicine, Turkey

## Clinical significance of the indirect biochemical markers for detecting liver fibrosis in adult patients with chronic HCV infection

Hepatitis C virus (HCV) has been considered to be one of the main causes of the liver fibrosis. Estimation of the stage of liver fibrosis is mandatory for the management of patients with HCV infection. Although liver biopsy is still the gold standard diagnostic tool to assess the stage of liver fibrosis, it is not available to be performed for all patients, and has lots of complications, as well as non-invasive tests may play a role in the evaluation of liver fibrosis. Moreover, the accuracy of liver biopsy is limited due to the intra- and inter-observer variability and sampling errors. Therefore, the development of simple, cheap and accurate biochemical markers is necessary to detect the liver fibrosis. Platelet count, AST to ALT Ratio, AST to platelet ratio index, age platelet index, Pohl score, Forns index, FIB-4, hepascore, fibrometer and fibrotest are the most commonly used indirect biochemical markers used for the detection of liver fibrosis. Instead of a single biochemical marker, use of the combinations of these non-invasive biochemical markers for liver fibrosis may increase the diagnostic accuracy of the single biochemical markers and may markedly reduce the need for liver biopsy. Therefore, use of these biochemical markers as an initial step before the invasive and expensive procedures is important in routine clinical practice for the favor of patients.

### **Biography**

Huseyin Kayadibi received a Degree in Medicine from the GATA School of Medicine (Turkey) in 2000. He is an Associate Professor in Medical Biochemistry at Hitit University School of Medicine, where he is the Head of Medical Biochemistry. He worked at Pasarow Mass Spectrometry Laboratory, University of California Los Angeles in 2012 as a Visiting Scholar. He has been a Co-investigator on NIH and other international projects about metabolomics, proteomic and lipidomic analysis. He is the Member of EFLM Working Group Test Evaluation and IFCC Working Group Cerebrospinal Fluid Proteins. He has published more than 70 papers in peer reviewed journals. His research interests are non-invasive assessment of liver fibrosis, separation techniques and mass spectrometry.

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