magnus Group

2ND EDITION OF WORLD CONGRESS ON INFECTIOUS DISEASES

VIRTUAL EVENT

JUNE 2022

17-18

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magnus Group

BOOK OF ABSTRACTS

2ND EDITION OF WORLD CONGRESS ON

INFECTIOUS DISEASES

17-18 JUNE

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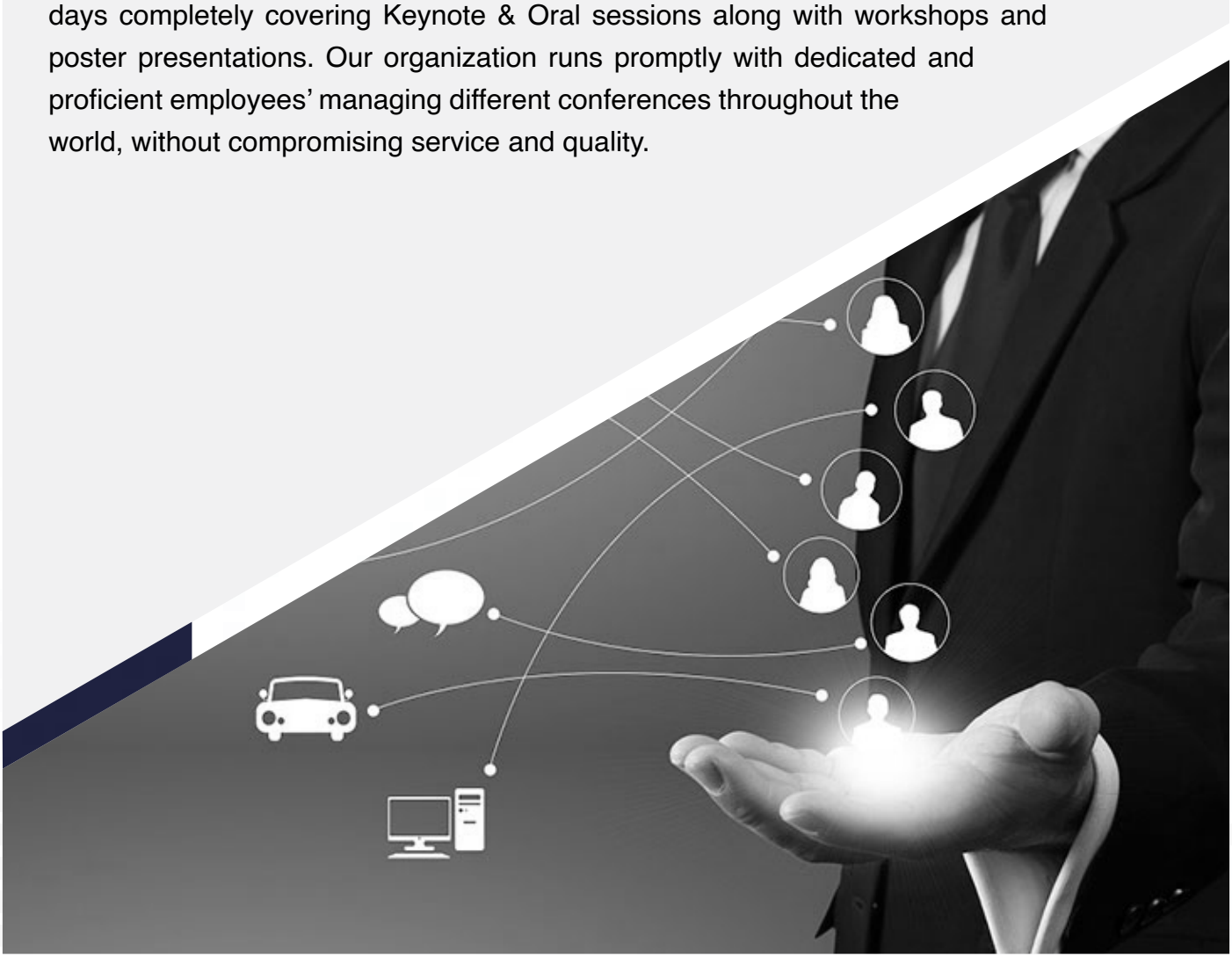
ABOUT MAGNUS GROUP

Magnus Group (MG) is initiated to meet a need and to pursue collective goals of the scientific community specifically focusing in the field of Sciences, Engineering and technology to endorse exchanging of the ideas & knowledge which facilitate the collaboration between the scientists, academicians and researchers of same field or interdisciplinary research. Magnus group is proficient in organizing conferences, meetings, seminars and workshops with the ingenious and peerless speakers throughout the world providing you and your organization with broad range of networking opportunities to globalize your research and create your own identity. Our conference and workshops can be well titled as 'ocean of knowledge' where you can sail your boat and pick the pearls, leading the way for innovative research and strategies empowering the strength by overwhelming the complications associated with in the respective fields.

Participation from 90 different countries and 1090 different Universities have contributed to the success of our conferences. Our first International Conference was organized on Oncology and Radiology (ICOR) in Dubai, UAE. Our conferences usually run for 2-3 days completely covering Keynote & Oral sessions along with workshops and poster presentations. Our organization runs promptly with dedicated and proficient employees' managing different conferences throughout the world, without compromising service and quality.



ABOUT INFECTION 2022

Magnus Group takes the pleasure to announce "2nd Edition of World Congress on Infectious Diseases" - Virtual Event during June 17-18, 2022 with the theme "Stepping Stones in Infectious Diseases Prevention, Control and Cure". Infectious Disease conference will provide all the attendees, the opportunity to network with experts, present their research findings to an international audience and notify the latest scientific developments from world's eminent speakers and contribute to various discussions that will shape future health policies and a proper patient care all around the world. The Conference will have a mix of lectures of keynote addresses, panel discussions, case discussions, current reports of scientific progress featured in oral abstracts and posters. The chosen topics will be of great benefit to practicing clinicians and academicians in the field of infectious diseases, medicine, microbiology, epidemiology and public health. This conference offers an opportunity for faculty, postgraduates, fellows, residents, and undergraduates to present their work, learn and network with the experts.

KEYNOTE FORUM

DAY 01

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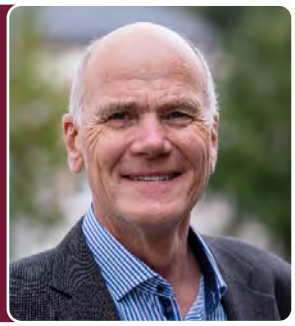


Ulrich Steinhoff* and Rouzbeh Mahdavi

Department of Medical Microbiology and Hospital Hygiene, Philipps University of Marburg, Germany

Improved diagnosis and treatment of visceral leishmaniasis

Visceral Leishmaniasis (VL) is the second-largest parasitic killer in the world (after Malaria) caused by parasites of the *Leishmania donovani* complex, including *L. donovani* (East-Africa and India) and *L. infantum* (Europe, North Africa and India). VL, also known as kala-azar, is mostly fatal if left untreated and the disease is characterized by irregular fever, weight loss, enlargement of the spleen. Therefore, reliable diagnosis and subsequent treatment is vital for VL-patients. Kinesins are the dominant antigens in visceral leishmaniasis (VL), targeted by the patient´s immune response. However, their sequence and structure (number of repeats) vary between different Leishmania isolates. This explains why rapid diagnosis of VL is still unreliable as commercially available tests are mainly based on rK39 (*L. infantum*, Brazil) and rK16 (*L. donovani*, India). Our goal was to develop an improved, rapid diagnostic test-system suitable for all VL-endemic countries, including Africa, Brazil and India. Further, as VL infected dogs (CVL) are an important reservoir that enhance the spread of VL, we also tested our new candidate antigens for their potential to diagnose and differentiate between VL-infected and VL-vaccinated dogs. To select the kinesin antigen(s) for most specific and efficient VL diagnosis, we sequenced, cloned and expressed the kinesin of VL isolates from East-Africa, Brazil and India and determined the impact of isolate- and repeat-specific variations on their diagnostic capacity.

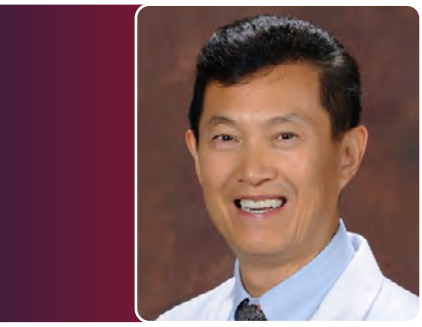
Furthermore, we studied in-silico and in vitro the influence of the number of kinesin repeats on antigenicity and diagnostic performance and could show that the number of Kinesin-repeats has a bigger influence on diagnostic sensitivity and specificity than strain-specific sequence variations. The second part of our work is concerned with the treatment of VL-patients. Currently, VL treatment strategies differ in the endemic countries - but common to all therapeutic approaches are strong side effects and the occurrence of drug resistant Leishmania-species. Currently, it was shown that the group of Kinetoplastida parasites (Leishmania spp., *Trypanosoma brucei* and *Trypanosoma cruzei*) express proteasomes that differ from the host organisms with respect to the proteasomal beta 4 and 5 subunit. Accordingly, a new class of proteasome inhibitors (azabenzoxazole) was developed that selectively binds to the beta 4/5 subunit of Kinetoplastida, suggesting the proteasome as ideal drug target molecule for infections caused by the Kinetoplastida parasites. Currently we are testing the suitability of such an inhibitor in the various Leishmania parasites by analyzing the efficiency of proteasome inhibition -, the parasite viability and survival in host cells. Our current data show that this new class of inhibitors is a very promising drug candidate for the treatment of VL.

Audience Take Away:

- Understanding the biology a complex disease with respect to diagnosis and treatment.
- Improved design of diagnostic antigens, design and testing new therapeutic drugs.

Biography

Dr. Ulrich Steinhoff earned a Diploma and PhD from Max-Planck Institute for Immunobiology, PHD Student from University of Ulm, Postdoctoral Fellow from University of Zürich, He obtained the position of Group leader and assistant director Max-Planck Institute for Infection Biology, and professor for Philipps University of Marburg – GERMANY, he has published a several research articles.



Stephen Hsu*[1,2], Douglas Dickinson[1], Bianca Marsh[2], Melissa Del Tufo[1], Lester Sampath[3], Emma Liu[2], Xiaocui Jiang[4], Bo Yao[4], Lee H Lee[5], Tin-chun Chu[6], Jiarong Zhong[7]

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[4]Hangzhou Sanju Biotechnology Co. LTD, China

[5]Montclair State University, Upper Montclair, USA

[6]Seton Hall University, South Orange, USA

[7]Georgia State University, USA

Novel formulations containing EC16 for future antiviral and virucidal products

Background: Norovirus is the world-leading cause of acute gastroenteritis associated with severe symptoms and deaths. However, vaccines against norovirus are currently not available, and medications that specifically target human norovirus infection are still under development. Surface disinfectants with activity against norovirus often contain toxic chemicals such as chlorine-based compounds (e.g., hypochlorite/bleach, ammonium chloride), acids, hydrogen peroxide, or a combination of these chemicals. However, these chemicals are not suitable for hand hygiene products to help prevent norovirus outbreaks or certain healthcare associated infections. The current studies evaluated the virucidal and antiviral activities of epigallocatechin-3-gallate-palmitate (EC16), a compound derived from green tea polyphenols, against murine norovirus (MNV S99, a surrogate for human norovirus) and other microorganisms.

Method: Initially, formulation suitability tests were conducted to compare EGCG (epigallocatechin-3-gallate), EC16 and tea polyphenol-palmitate in alcohol solution and hand hygiene formulations. The virucidal activity of EC16 was then tested in hand sanitizer gel and hand sanitizer foam formulations using a TCID50 time-kill suspension assay. The hand sanitizer gel prototype was also tested according to the EN13727:2012 (S. aureus and P. aeruginosa), EN13624 (Candida albicans), and EN 14476:2019 (norovirus) protocols. The surface disinfectant spray prototype was tested against S. aureus, P. aeruginosa, and S. enterica according to the AOAC Official Method 961.02, and against feline calicivirus according to ASTM test method E1053-20. The prototypes were also tested against spores of Bacillus cereus and Clostridium sporogenes using time-kill suspension tests. The In vitro treatment and prevention tests were performed using a 1-hour incubation of EC16 or EGCG with RAW264.7 cells, either pre-infection or post-infection with MNV.

Results: Unlike EC16, both EGCG and tea polyphenol-palmitate showed auto-oxidation (color change) and precipitation in alcohol solution and hand hygiene formulations, and were thus less suitable for potential hand hygiene products or new drug development. The time-kill suspension test results demonstrated that EC16 in both sanitizer gel and foam formulations reduced MNV by >99.99% (>log10 4) after 60 sec direct contact. The hand sanitizer gel showed activities against S. aureus, P. aeruginosa, C. albicans, and murine norovirus with a >log10 7.4 reduction for bacteria, >log10 6.4 for the yeast, and >log10 5.5 for murine norovirus. The surface disinfectant spray tests passed EPA required standards with all species tested. The sporicidal activities of similar formulations showed >log10 5 reductions against two bacterial spores. Without alcohol, one-hour incubation of EC16 with RAW264.7 cells either before or after MNV infection (i.e., without direct contact with MNV) resulted in >99% (>log10 2) reduction of MNV infectivity.

Conclusion: EC16 is a candidate for use as a virucidal and antiviral compound to prevent and treat norovirus infection, with potential to be developed as a new drug against norovirus, pending in vivo and clinical tests. The hand sanitizer

and surface disinfectant formulations containing EC16 have the potential to be further developed into novel hand hygiene and surface disinfectant products with bactericidal, fungicidal, virucidal, and sporicidal activities, pending additional studies and tests.

Audience Take Away:

- Recognize certain major alcohol-resistant pathogenic microorganisms that pose serious threats to public health, and the gaps in methods for prevention and control of these microorganisms.
- Know how natural and non-toxic compounds could be used in antiviral and virucidal formulations and medications.
- Understand the advantages and disadvantages of the currently used hand hygiene antiseptics and surface disinfectants, and the applicable test standards of regulatory agencies.
- Gain knowledge of new technologies and novel prototypes designed to provide better control and prevention of alcohol-resistant microorganisms with higher efficacy and minimum toxicity.

Biography

Dr. Stephen Hsu earned a bachelor's degree from Wuhan University, China, a Master of Arts degree from Montclair State University and a PhD. degree from the University of Cincinnati College of Medicine. He spent four years at Memorial Sloan-Kettering Cancer Center before a career change. During the four years as a sports anchor for ESPN International, Dr. Hsu taught at the National University of Singapore. Dr. Hsu joined Augusta University in 1999 and serves as Course Director for Nutrition and for Biochemistry. His research has been supported by the NIH and other agencies, with more than 80 research articles published.

SPEAKERS

DAY 01

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Kai-Fu Tang
Chongqing Medical University, China

Role of dicer in the pathogenesis of HBV-associated hepatocellular carcinoma

Dicer, a key component of the RNA interference pathway, is also essential for DNA repair. Reactive oxygen species in inflamed liver tissues induce DNA damage and decrease Dicer expression. The downregulation of Dicer, in turn, reduces DNA repair efficiency and leads to increased DNA damage. DNA damage leads to an aggravation of inflammation via various mechanisms. First, it induces the expression of the natural killer group 2D (NKG2D) receptor ligands, and the binding of these ligands to their receptor promotes inflammation. Second, DNA damage promotes the release of nuclear DNA into the cytoplasm. Consequently, the cytosolic DNA sensing machinery induces the secretion of proinflammatory cytokines. Thus, decreased Dicer expression plays a central role in the development of unresolved chronic inflammation, a common and important factor in neoplasia pathogenesis.

In addition to promoting inflammation, decreased Dicer expression may promote the development of hepatocellular carcinoma via the following mechanisms. First, decreased Dicer expression reduces DNA repair efficiency, promoting gene mutation and eventually carcinogenesis. Second, Dicer processes 7SL RNA into small fragments that function as dominant negative regulators of the full-length 7SL RNA and interfere with signal recognition particle (SRP) complex formation. Accordingly, a decrease in Dicer expression promotes SRP complex formation via a downregulation of the 7SL RNA fragment biogenesis, which then enhances SRP-mediated protein targeting and increases the translocation and expression of membrane and secretory proteins, which are upregulated in tumor tissues. Finally, decreased Dicer expression may promote carcinogenesis by deregulating miRNA expression.

Biography

Dr. Kai-Fu Tang graduated from Chongqing Medical University, Peking Union Medical College, and Chongqing University with a Bachelor's degree in Medicine, a Master of science degree, and a Doctoral degree in Engineering, respectively. He has successively worked in Huaying People's Hospital (Sichuan, China), University of Cologne (Cologne, Germany), Friedrich Miescher Institute (Basel, Switzerland), Second Affiliated Hospital of Chongqing Medical University (Chongqing, China), Wenzhou Medical University (Wenzhou, China), The First Affiliated Hospital of Medical University (Wenzhou, China), and Chongqing Medical University (Chongqing, China).

Currently, Dr. Tang is a professor at the Key Laboratory of Molecular Biology on Infectious Diseases, Ministry of Education, Chongqing Medical University. Dr. Tang's research is focused on the role of Dicer in inflammation and inflammation-driven carcinogenesis. He has published more than 30 papers in international journals such as Genome Biol, J Cell Biol, Nucleic Acids Res, Oncogene, Cell Rep, Theranostics, Pharmacol Res, Cell Death Dis, Carcinogenesis, and J Biol Chem.

Wei Jiang*, Ling Luo, Yunzhi Zhang, Xin Zhang, Xiaohao Wang, Jing Li

Second Affiliated Hospital of Chongqing Medical University, China

Effects of motivational interviewing based on the thrive model of psychological recovery on post-traumatic growth in patients with post-hepatitis B liver cancer : A randomized controlled study

In China, about more than 80% of primary liver cancer patients are co-infected with hepatitis B virus. These patients suffer from great physical and psychological pain during anti-cancer and anti-viral treatment, but there is also a degree of post-traumatic growth, and post-traumatic growth (PTG) plays an active role in promoting their physical and psychological recovery and improving their quality of life. This study investigated the effects of motivational interviewing based on the THRIVE model of psychological recovery on post-traumatic growth, anxiety and depression, and quality of life in patients with post-hepatitis B liver cancer. We used a single-blind, randomized, controlled trial. A convenience sample of 100 patients with post-hepatitis B liver cancer who met the inclusion criteria in a tertiary hospital in Chongq China, was selected for the study, and they were randomly divided into a control group given conventional psychological care (n=50) and an intervention group given motivational interviewing based on conventional psychological care plus the THRIVE model of psychological recovery (n=50). The post-traumatic growth, anxiety and depression, and quality of life of the patients were assessed using the Simplified Chinese version of the Post-Traumatic Growth Inventory (C-PTGI), the Self-Assessment Scale for Anxiety (SAS), the Self-Assessment Scale for Depression (SDS), and the Quality of Life Scale for Patients with Liver Cancer (QOL-LC V2.0) before the intervention and 1 and 3 months after discharge, respectively.

The results revealed that at 1 month after discharge and 3 months after discharge, the C-PTGI and the scores of each dimension in the intervention group were higher than those in the control group, and the SAS and SDS scores were lower than those in the control group (P□0.01); the QOL-LC total score, psychological function, symptom side effects, and social function scores in the intervention group were higher than those in the control group (P□0.01), but the difference between the somatic function scores of the two groups was not statistically However, the difference in somatic function scores between the two groups was not statistically significant (P□0.05). These results suggest that this study provides preliminary evidence that motivational interviewing based on the THRIVE model of psychological recovery can enhance post-traumatic growth, alleviate anxiety and depression, and improve the quality of life of post-hepatitis B liver cancer patients to some extent.

Audience Take Away:

- This study can expand the scope of research on post-traumatic growth, enrich the theoretical and practical studies related to PTG, and provide methodological references for the study of post-traumatic growth in patients with other cancers or infectious diseases.
- Optimize clinical nurses' psychological care measures for post-hepatitis B liver cancer patients to improve their mental health and quality of life; the formed PTG intervention model can provide practical references for other infectious disease patients.
- In clinical teaching and research, the research content of this study can provide ideas for mental health education for patients with infectious diseases. the THRIVE.
- Model clearly clarifies the six steps of psychological recovery, namely self-assessment, nurturing hope, telling new stories, discovering changes, assessing changes, and demonstrating growth with practical actions; and it is used as a theoretical basis to form an MI applicable to PTG in patients with post-hepatocellular carcinoma after hepatitis B intervention program, which is highly innovative.
- Unlike previous patients who passively and ineffectively received psychological.

- Care interventions, the MI intervention program we designed based on the THRIVE model of psychological recovery can well establish a good nurse-patient partnership with patients, and the patient's subjective initiative is greatly improved in solving the problems of patients' psychosocial and behavioral styles, and the efficiency of nurse-patient communication is also improved to some extent.
- This study can provide a new research protocol to address the health promotion of post-hepatitis B liver cancer patients. Through the MI intervention based on the THRIVE model of psychological recovery for post-hepatitis B liver cancer patients, we aim to improve PTG levels, improve patients' psychological status and quality of life, and provide a basis for clinical nurses to implement individualized psychological care for post-hepatitis B liver cancer patients.

Biography

Jiang Wei, a master's degree student in nursing studying at Chongqing Medical University, joined Prof. Luo Ling's research team at the Second Hospital of Chongqing Medical University in 2019, with research interests in infectious disease nursing and psychological nursing, and will graduate and obtain her master's degree in 2022. In the Department of Infectious Diseases of the Second Hospital of Chongqing Medical University, Prof. Luo Ling has guided her in nursing research and has successfully published one paper and another papers in core journals are under review.

Pooyan Afzali Harsini*[1], Gholamreza Imani[2], Saeed hamzehie[3]

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[2]MD, Department of Medicine, Kermanshah University of Medical Sciences, Kermanshah
[3]MD, Internal Medicine Specialist, Kermanshah University of Medical Sciences, Kermanshah

COVID 19 and pregnancy vaccination : Challenges and concerns

The 2019-nCoV (or COVID-19) outbreak began in Wuhan and has since spread throughout China and the world. A increase in new diseases and deaths poses severe public health and governance concerns in Wuhan. Governments have taken required activities such as limiting cross-city travel, case detection and contact tracing, quarantine, public education, and creation of detection kits with the help of the federal government. The society's unity has considerably decreased challenges including shortage of efficient medications, healthcare services, medical supplies, and logistics. The epidemic will be ended with the ongoing efforts of national and international multi-sectoral bodies. 48.5 % of the world's population has had a COVID-19 vaccine. Globally, 6.84 billion doses have been given, with 25.52 million given daily. Only 3% of low-income persons have received one dosage.

Simultaneously, many COVID-19 vaccines have been created and approved at a breakneck pace, all while adhering to stringent regulatory requirements. Pregnant women had a greater risk of severe illness, ICU admission, and invasive ventilation compared to non-pregnant patients of the same age. As a result, pregnant women are designated a high-risk population for COVID-19 infection. A passive approach to pregnant, puerperal, and breastfeeding women's requests for vaccination does not justify the absence of evidence on the efficacy and evaluation of immunological response to the SARS-CoV-2 vaccine. It is crucial to recognize that during the pregnancy-puerperal cycle, women are at a greater risk of severe COVID-19, and their children are at an increased risk of the detrimental effects of preterm delivery, providing a compelling argument for primary prevention.

Audience Take Away:

- Pregnancy Covid-19 vaccination concerns.
- New studies finding about Covid-19 pregnancy vaccination.
- Important questions about pregnancy vaccination should be answered.
- FDA guides about pregnancy.

Biography

Pooyan Afzali Harsini was born in 13 June 1988 in Kermanshah. He has Bachelor of Public Health. He's interest in research are: Nutrition, Cancer prevention, Public Health, Infectious disease, Health Education.

Marshal Sikandangwa*[1], Mary Kagujje[1], Nsala Sanjase[1], Clara Kasapo[2], Rhehab Chimzizi[2], Michael Herce[1,3], Nancy Kasese-Chanda, Monde Muyoyeta[1], Patrick Lungu[2]

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[2]Ministry of Health, National TB program, Zambia
[3]University of North Carolina, Zambia

Outcomes for drug susceptible TB retreatment cases in Zambia : A review of 2016-2019 program data

Background: In 2017, Zambia revised its drug susceptible TB (DS-TB) treatment guidelines to change from an 8 months streptomycin containing regimen to an all oral 6 months regimen for retreatment TB cases; new and retreatments DS-TB patients were to take same regimen. We sought to understand the changes in treatment outcomes for retreatment TB cases since adoption of an all oral 6 months regimen and to compare the treatment outcomes of new and retreatment TB patients.

Intervention: We analyzed programmatic data, from all the ten provinces in Zambia, of patients on treatment between 2016 and 2019 to determine the TB treatment outcomes stratified by new and retreatment TB cases.

Results: The treatment success rate among retreatment TB cases increased from 82% in 2016 to 89.2% in 2019, mortality rate reduced from 8.2% to 5.4%; treatment failure was constant at about 1% and loss to follow up reduced from 4.1% to 2.8%. Among new cases, the success rate increased from 88.2% in 2016 to 89.5% in 2019 cohort, the mortality reduced from 5.6% to 5.2%, treatment failure rates were less than 1%.

Conclusions: Overall, there has been an increase in the treatment success rate of both new and retreatment TB cases. Unfavorable outcomes such as death, loss to follow up steadily decreased.

Outcomes for retreatment notified - 2016 - 2019						
Year of notification	Total notified	Success rate	Died	Treatment failed	Lost to follow-up	Not evaluated
2016	6537	82.0%	8.2%	1.0%	4.1%	4.7%
2017	6403	89.8%	6.0%	0.6%	1.8%	1.7%
2018	5255	89.3%	5.7%	0.6%	2.8%	1.5%
2019	5405	89.2%	5.4%	0.7%	2.8%	1.8%
Treatment outcomes for new notified in 2019						
2016	33616	88.2%	5.6%	0.5%	2.7%	3.0%
2017	30800	89.5%	5.9%	0.4%	2.4%	1.8%
2018	30667	90.0%	5.5%	0.4%	2.3%	1.7%
2019	31461	89.5%	5.2%	0.4%	3.0%	2.0%

Biography

Marshal Sikandangwa received a diploma in Clinical medicine (Chainama Hills College of Health Sciences - Lusaka, Zambia) in 2002 and a diploma in TB control and epidemiology (Research Institute of Tuberculosis (RIT) – Tokyo Japan)in 2007. In 2017, finished his Degree in Public Health (Texila American University) and in 2019 Masters in Public Health(Texila American University in conjunction with Universidad Central de Nicaragua -UCN).

Marshal started working at a medical clinic in 2002 before moving to the district to coordinator TB and Leprosy program in 2005. The same year (2005), he was promoted to be the provincial coordinator for TB and leprosy the position he had until 2013. In 2013, he worked as provincial TB/HIV liaison Officer until 2017. In 2018, he joined FHI360 and was seconded to the Ministry of Health headquarters as the National Multi Drug Resistant Tuberculosis (MDR-TB) Coordinator. He was move to FHI360 national officer in 2019 as national TB/HIV technical officer the position he held until 2020 when he joined Centre for Infectious Disease research in Zambia as MDR-TB coordinator the position he currently holds. He has passion for TB and has worked in the development of TB materials and capacity building in the country.

Shyamapada Mandal*[2], Manisha Mandal[1]

[1]Department of Physiology, MGM Medical College, India

[2]Department of Zoology, University of Gour Banga, India

Exploring the plant-derived natural antimetabolites against pathogenic bacteria : In silico approaches of drug discovery in combating bacterial infection to humans

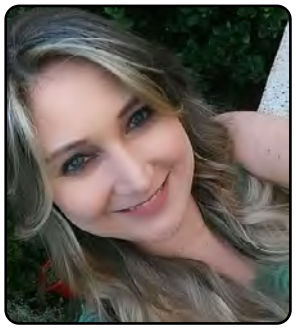
Emergence of multiple antibiotic resistance among pathogenic bacteria, and lack of suitable antibiotic choice to combat them highlight the urgent need of effective alternatives for the treatment of such bacterial infection to humans. Phytochemicals have been considered as the most useful components of lead molecules in drug discovery. The current study performs *in silico* molecular docking of phytochemicals from sweet cherry (*Prunus avium*) and pigeon pea (*Cajanus cajan*), targeting bacterial enzymes: dihydrofolate reductase (DHFR) and dihydropteroate synthase (DHPS) useful in nucleic acid biosynthesis among bacteria. The phytochemicals (small-molecules) which were utilized as the ligands in docking studies included caffeic acid, p-coumaric acid, sinapic acid and ferulic acid from *Prunus avium*, and cajaisoflavone, cajaflavanone and cajanone from *Cajanus cajan*.

The anti-DHFR trimethoprim (TMP) and anti-DHPS sulfamethoxazole (SMZ) were used as the reference standards in molecular docking. The molecules studied through docking were then subjected to pharmacological property analysis. The top-scored ligands were selected for molecular dynamic simulation to authenticate the thermodynamically stable binding with the target proteins. The overall findings of the current study signify the usefulness of the phytochemicals as natural antimetabolites against human pathogenic bacteria, and this would also be valuable in aiding precise drug discovery from phytochemicals with systematic pharmacological understanding.

Biography

Dr. Shyamapada Mandal is Professor and Head of the Department of Zoology, and Dean (Science), University of Gour Banga, India. He is interested on infectious diseases, probiotics, and genomics and bioinformatics research. He did pre-PhD, PhD, and post-PhD research under the guidance of Professor Nishith Kumar Pal at Calcutta School of Tropical Medicine, India.

He has published 118 articles with eight book chapters. He is life member of IAMM and IASR, India, and fellow member of SASS, India. Eight national academic and research awards have been conferred to him. He has guided 52 post graduate students; supervised three MPhil and three PhD students, and supervising 6 PhD and one MPhil students. Professor Mandal is among the world's top 2% scientists as per the survey of the Stanford University, published in PLOS (Public Library of Science) Biology (October, 2020). He is featured in the top 2% world scientists list for second consecutive time as published by the Stanford University-Elsevier BV (October, 2021).



Amanda H Cavalheiro*, Andrea Q Ungari
Faculty of Medicine of Ribeirão Preto, Brazil

Adherence, physical limitation and social participation in leprosy patients in a high-complexity hospital

Background: Therapies and procedures to improve the quality of life of patients and adherence to treatment is a concern for the health systems and for health professionals. More studies related to preventive and therapeutic education, using educational technologies for health purposes are needed.

Objectives: To demonstrate the educational instruments developed by the researcher, as animated videos and posts, as well as the pharmacotherapeutic monitoring of pharmaceutical care, increase the adherence to the treatment of patients diagnosed with leprosy in a high-complexity hospital.

Methods: This is a longitudinal study, using quantitative and qualitative assessment tests to assess adherence to treatment and general knowledge about the disease and quality of life. From the data, educational materials were produced and tested on patients. Then, the impact of follow-up and instructional materials on treatment adherence was evaluated.

Results: Treatment adherence increases after the intervention of pharmaceutical care and health education, as per the Morisky-Green treatment test. The methodology was more effective in male patients with low education than in women, who already had high adherence. In addition, it was possible to identify that the Morisky-Green and Haynes-Sackett adhesion tests, used in the work, completely differed in their results, they occur to reflect the use of such tools in research in the area.

Conclusion: It is possible to increase patient treatment adherence through health education programs and pharmaceutical care.

Keywords: Educational tools; Leprosy; Medication Adherence; Pharmaceutical care.

Audience Take Away:

- How to manage with patients adherence in pandemic situation.
- How to use technologies to improve adherence in patients.
- How pharmacists can use their knowledge to help chronic patients.
- How to help leprosy patients to be more concerned about their treatment.

Biography

Graduated in Pharmacy-Biochemistry from the University of São Paulo(USP), Research and Development Analyst for the Medicines, Cosmetics and Food Industry with project development in the Natural Products area together with USP; Specialist in Pharmacology and Drug Interactions and Specialist in Teaching in Higher Education. Health Instructor in education programs for patients with chronic and rare diseases. Taught classes for vocational courses. She has already been a Responsible Pharmacist in a distributor of medicines and drugstores. She is currently Professor of Pharmacy Technician and is finishing her master's degree at FMRP - USP, working with leprosy patients.

Grace Lalana Christopher
Grace Specialist Clinic, South India

Early onset neonatal sepsis

Early onset neonatal sepsis despite a low incidence has a high mortality rate of over 50%, hence early diagnosis and institution of antibiotics within 24 hours of birth is important to prevent not only the high mortality but also morbidity. However there is a lack of an ideal confirmatory diagnostic test within 24 hours of birth with 100% sensitivity and 100% specificity is challenging to the clinician in making an accurate and early diagnosis of early onset sepsis. Most etiological pathogens cause in-utero with fetal infections and identification of predisposing high risk maternal, obstetric and neonatal factors are important as it support a high index of clinical suspicion warranting screening for sepsis.

Multivariate analysis and multiple logistic regression of various antepartum, intrapartum and neonatal factors revealed that young mothers ≤24 years, OR 1.53, (95% CI 1.2-2.0) and primigravidae, OR 2.08, (95% CI 1.6-2.7) was highly statistically significant P>|z|=0.002 and P>|z| <0.001 respectively. Premature Rupture of Membranes (PROM) OR 12.96, (95% CI 9.5-18.4), P>|z| <0.001 as well as Gestational diabetes OR 2.19, (95% CI 1-1.3), P>|z| <0.008 was statistically significant. Surprisingly birth by emergency Lower Segment Cesarean Section (LSCS) OR 1.82, (95% CI 1.3-2.5), P>|z| <0.001, since the usual indication was fetal distress probably due to in-utero infection including neonatal risk factors of prematurity ≤36 weeks, OR 2.57, (95% CI 1.8-3.6), P>|z| <0.001 and Low Birth Weight (LBW) ≤2499g, OR 2.76, (95% CI 2.1-3.7), P>|z| <0.001, and male gender, OR 1.88, (95% CI 1.1-3.0), P>|z| <0.008 were also highly statistically significant.

Presently reported global incidence of neonatal sepsis was is low, less than 4%, while it was 8.9% in present study, clinical observation despite its limitation and diagnostic hematologic tests including serological markers tests remain the most practical means to confirm and monitor progress of disease or to withhold antibiotics in uninfected newborns thereby decreasing the emergence of multidrug resistant pathogens Thus early diagnosis based on presence of two or more high risk maternal, obstetric and neonatal factors, warrants screening for sepsis in newborns and early antibiotic therapy will not only save lives but also decrease morbidity of severe lifelong threatening sequelae such as seizures, mental retardation, blindness, hearing loss etc. The awareness of the role of infection causing high morbidity and mortality in the newborn has increased dramatically over the past few decades, emphasizing the importance of early diagnosis of early onset neonatal sepsis.

Biography

Dr. Grace Lalana Christopher completed both her undergraduate M.B.B.S. and postgraduate DCH at reputed Christian Medical College & Hospital, Vellore, South India, thereafter completed her DNB course from Bangalore. She has qualified for ECFMG (US) currently valid. She is a Consultant Pediatrician at Grace Specialist Clinic and Founder, CEO of 'New Gen Parenting' @www.newgenparenting.com. She is an eminent speaker in the field of Perinatology and authored several books on Parenting and child care Website: www.newgenparenting.com. She has published several leading original scientific research papers in pediatrics and new-born care including innovative "Newborn Resuscitation" and presented papers at several reputed conferences.

Amarjeet Gambhir

Faculty, Department of Dental & Oral Surgery, Lady Hardinge Medical College & Associated Hospitals, India

COVID-19 & fungal infections

The outbreak of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory system coronavirus 2 (SARS-CoV-2) has been sweeping across the globe. It has been associated with a wide range of opportunistic bacterial and fungal infections. COVID-19 likely increases the risk for fungal infections because of its effect on the immune system and because treatments for COVID-19 (like steroids and other drugs) can weaken the body's defenses against fungi. COVID-19-associated fungal infections can lead to severe illness and death. The most commonly reported fungal infections in patients with COVID-19 include aspergillosis, invasive candidiasis, and mucormycosis. Aspergillus species could be an important cause of life-threatening infection in COVID-19 patients, especially in those with high risk factors such as steroid use, chronic obstructive pulmonary disease, hemopoietic malignancy etc. COVID-19-associated pulmonary aspergillosis (CAPA) usually occurs in patients with severe COVID-19 and can be difficult to diagnose because testing usually involves obtaining specimens from patients' lower respiratory tract. The treatment of CAPA includes antifungals like voriconazole, posaconazole, and isavuconazole.

Patients hospitalized for COVID-19 are at risk for healthcare-associated infections (HAIs), including candidemia, or bloodstream infections caused by Candida. Diagnosis of invasive candidiasis (IC) depends on culture methods including culture of blood or other samples and nonculture diagnostic tests including mannan and antimannan IgG tests, C. albicans germ tube antibody (CAGTA), BDG and PCR-based assays. COVID-19-associated mucormycosis erroneously referred to as "black fungus" is another fungal infection which became a major public health problem particularly in India. It is postulated that COVID-19 associated mucormycosis (CAM) is driven by complex host-microbe interactions. It may affect the lungs (pulmonary mucormycosis) but more frequently involves the nose, sinuses, eyes & brain (rhino-orbito-cerebral mucormycosis). Diagnosis is usually made by clinical findings supported by diagnostic nasal endoscopy or contrast-enhanced MRI or CT scan coupled with microbiological confirmation on direct microscopy, culture or histopathology. The treatment for mucormycosis frequently involves aggressive surgical intervention and treatment with antifungals, including amphotericin B, posaconazole, or isavuconazole. Fungal infections resistant to antifungal treatment have also been described in patients with severe COVID-19. As clinicians, we should be aware of the possibility of fungal co-infections with COVID-19 to reduce delays in diagnosis and treatment in order to help prevent severe illness and death from these infections.

Audience Take Away:

The presentation will provide an overview of the various fungal co-infections associated with COVID-19 with special emphasis on:

- Causes/predisposing factors.
- Pathophysiology & clinical presentation.
- Guidelines for diagnosis & management.

Biography

Dr. AMARJEET GAMBHIR graduated in dentistry from GDC, Indore in 2002 & completed his post-graduation in Oral & Maxillofacial Surgery from NHDC, Mumbai in 2006. He completed his Senior residency from Lady Hardinge Medical College & Hospital, New Delhi in 2009. He worked as a faculty at different dental colleges and was promoted to Professor, Oral & Maxillofacial Surgery in 2016. He again joined Lady Hardinge Medical College as a Faculty in 2016. He is the co-investigator for "O-PMD Hub", A National Resource Centre for Oral Potentially Malignant Disorders under the National Oral Health Program, MoHFW, Government of India.

Corsame, Lester Jay*

Philippine College of Physician, Philippines

Predictors of treatment outcome among drug resistant tuberculosis patient at the outpatient TB dots facility of Zamboanga city medical center

The Philippines is one of the high tuberculosis burden countries and drug- resistance is widespread in the country and abroad and threatens the success of TB program. Timely and efficient MDRTD treatment is crucial in preventing disease transmission and reducing the morbidity and mortality. Review of literature showed disparate predictors of treatment outcome and only prevalence studies are available in the Philippines. Hence, the findings of this study can be different among Filipinos. This study aims to determine the predictors of treatment outcomes among drug-resistant patients in outpatient setting at Zamboanga City Medical Center TB DOTS Center to enhance the TB program and its outcome.

This study is a retrospective cohort analytical design, which was conducted at the TB DOTS Center of Zamboanga City Medical Center. Using the data registry book from January 2015 to December 2019, patient's demographic, and clinical characteristics were reviewed, collected, tabulated and analysis was done using binary regression to determine the predictors of treatment outcomes among drug-resistant tuberculosis patients. Of the 207 DR-TB patients, only 176 were included in the analysis, 120 (68.2%) had successful treatment outcome while 56 (31.8%) had poor treatment outcome. Age less than 40 years (*p value*= 0.038), absence of diabetes (*p value*= 0.079) and susceptible to isoniazid (*p value*= 0.025) and streptomycin (*p values*=0.012) were predictors of good outcome while none of the variables were predictors of mortality. The common drug resistance pattern were Rifampicin-resistant (56.8%), followed by MDR TB (36.4%). The common characteristics of drug-resistant tuberculosis are male sex, age more than 40 years old, married, living in urban areas and with history of previous TB treatment. None of the variables were predictors of mortality however, age less than 40 years old, absence of diabetes, TB strains susceptible to isoniazid and streptomycin were predictors of good outcome.

Drug resistant, treatment outcomes, MDR-TB, treatment success, poor outcomes MESH WORDS.

Audience Take Away:

- The study results will help determine the risk factors common to Filipino people at high risk for drug resistant tuberculosis.
- The study results will help improve the existing policies and tailor fit to the Filipino people.
- Tuberculosis has been a global health concern in the world and Philippines is among the 30 countries with high TB burden. The results of the study may help determine risk factors that could affect the treatment outcome of drug resistant TB patients, and this will help improve the management to further enhance the treatment success rates.
- This study establishes the baseline data for Filipinos with Drug resistant TB and can be implemented in a wider scale.

Biography

Dr. Lester Jay Corsame finished his residency training in Internal Medicine at Zamboanga City Medical Center. He received his diplomate degree in 2022. Currently, he is under deployment program of the Department of Health to the rural areas.

Asit Kumar Chakraborty
Oriental Institute of Science & Technology, India

Indian medicinal phytoextracts to tackle multi-drug resistant bacterial infections targeting RNA polymerase and DNA topoisomerase

Gradual increase of multidrug resistant infections is a threat to the human race as MDR plasmids have acquired.>10 mdr and drug efflux genes to inactivate antibiotics. Plants secret anti-metabolites to retard growth of soil and water bacteria and are ideal source of antibiotics. Six plants derived bacteriocidal organic extracts were selected testing 80 medicinal plants against MDR bacteria. A Cassia fistula saponin bromo-polyphenol compound (CU1) ran fast on TLC and purified on HPLC C_{18} column at 3min. CU1 is three times less active than rifampicin in Agar-hole assay. CU1 inhibited transcription from Escherichia coli as well as Mycobacterium tuberculosis RNA Polymerases. Gel shift assays demonstrated that CU1 interferes at the open promoter complex formation step. Phytochemicals are unstable and we thought three possible remedies: (a) search for more active and stable extracts, (b) cultivation of plant in big clay pot keeping in the roof top located in cities, and (c) plant tissue culture. A single tree of *Suregada multiflora* was grown five years in roof top at Kolkata and its root extracts was found exceptionally active (18 fold than natural sources) against MDR bacteria.

Further, in MS tissue culture media with plant hormones IAA and 6-BA (2.5µg/ml), over-produced active principles further 2.8 fold. We purified the active principle NU2 by TLC and HPLC, and also confirmed by MASS, NMR and FT-IR. NU2 phytochemical also inhibited some parasites like *Leishmania donovani, Trypanosoma brucei* and *Plasmodium falciparum*. NU-2 actively inhibited the DNA topoisomerase I and RNA polymerase of Escherichia coli suggesting the modes of action. Thus, cities of poor nations with population burden should cultivate medicinal plants in small garden or roof top in a similar way for superbug treatment where common antibiotic therapy fail. This message is urgent and universal as scientists projected that MDR spreading may claim 10 million people in the Asian countries as we would approach 2050. We think antibiotic void will continue due to few reasons: (1) MDR genes are accumulated in large conjugative plasmids as well as chromosome islands with many transposons; (2) the spread of MDR genes in plasmids is increasing at 5%/year and (3) a critical message has generated to protect symbiosis relation between gut bacteria and human facilitating efficient MDR genes creation to protect gut microbiota from antibiotics as well as helping vitamin synthesis for human metabolosome.

Biography

Dr. Asit Kumar Chakraborty was performed his PhD at CSIR-Indian Institute of Chemical Biology, Kolkata and awarded PhD degree in 1990 from Calcutta University. He did postdoctoral work at University of California at Berkeley and visiting scientist at Johns Hopkins University School of Medicine. He was Associate Professor of Biochemistry at OIST, Department of Biotechnology, Vidyasagar University and now retired.

Annapurna Ahuja

Department od Periodontics and Oral Implantology, India

Periodontitis and adverse pregnancy outcomes. A possible link

In 1900, William Hunter, a British physician, first developed the idea that oral microorganisms were responsible for a wide range of systemic condition and he also identified gingivitis and periodontitis as foci of infection. The focal infection theory, proposed by hunter was based on almost no evidence. Currently, in re-examining the potential association between oral infections and systemic conditions, it is important to determine what evidence is available, and is still needed to substantiate the association and to validate the possible mechanism of association. So this evidence paper reviews current knowledge relating periodontitis to preeclampsia and pre term birth(PTB).Thus the Focused question: is "does periodontitis cause adverse pregnancy outcomes?''

Background: Periodontitis is an inflammatory disease affecting supportive tissues of the teeth, leading to progressive destruction of connective tissue attachment and the alveolar bone. This destruction is characterized by the formation of a periodontal pocket. Because of its chronic inflammatory infectious nature, periodontitis has been considered a systemic exposure implicated with causative agent in variety of systemic diseases and condition. Recent findings have suggested that periodontal diseases are associated with a higher risk of cardiovascular diseases, atherosclerosis and adverse pregnancy outcomes, such as preterm birth and low birth weight and preeclampsia.

Audience Take Away:

- Learning the importance of oral hygiene and effects of periodontitis on systemic health.
- Audience shall learn about the effects of oral microorganisms on pregnancy.
- Along with seeking advice from Gynecologist one should also consider visiting oral health specialist during pregnancy.

Biography

Prof. Dr. Annapurna Ahuja, studies her Masters of dental surgery from the prestigious college of dental science and hospital, affiliated to Rajiv Gandhi University of health sciences, Bangalore in 2009. She then joined Dental College as a Teaching Faculty. She has published more than 40 research articles, 8 text books of her specialty, one chapter contribution. She is a very active part of the research and has 4 copyrights of her work in the field of Periodontics. She is also a renowned poet, has written more than 200 poems. Has a recipient of Best book award for her debut book, BAPUJI written in Indian Language. Presently she is associated with Hazaribag College of Dental Sciences & Hospital, as Head of the Department, Dept. of Periodontics & Oral Implants.

Balamurugan. R MDS (OMFS)

Fellow ICOI (USA) Oral and Maxillofacial Surgeon, India

Maxillary mucormycosis treated by maxillectomy : A complication of oroantral fistula 6 months post-surgery planned for functional endoscopic sinus surgery (FESS) and palatal finger flap reconstruction

Introduction: Mucormycosis is an opportunistic fungal infection predominantly caused by the Rhizopus and Mucor species. The ubiquity of mucormycosis is high with poor prognosis because of the delay in diagnosis and intervention.

Case Description: A 68 year old male patient who is diabetic since the past 20 years reported with pain and ulcerations in the maxillary alveolus. Biopsy of the region revealed it to be a mucormycosis which was then operated by performing a maxillectomy. After six months of surgery, the patient reported back with oroantral fistula, which was further explored through functional endoscopic surgery and then soft tissue reconstruction was done using palatal finger flap.

Conclusion: The current case scenario signifies that through early diagnosis and intervention it is possible to achieve good prognosis and can also remarkably decrease the mortality rate.

Biography

Dr. R. Balamurugan is an Oral and Maxillofacial Surgeon and Oral Implantologist from Chennai, India. He initiated his professional career in the field of dentistry and continued his specialisation in the path of Oral and Maxillofacial Surgery (India) and Fellowship in Oral Implantology (International Congress of Oral Implantologists ICOI, USA). His field of expertise in basic dental treatments, dento-alveolar surgeries, maxillofacial trauma, dental implants, medical emergencies, pathologies associated with maxillofacial region, TMJ related disorders. He was awarded as the best PEER REVIEWER by Star Dental Centre Pvt Ltd, India for his sincerity and dedication towards work by adhering to the timelines with a prompt reviewing process.

He holds various International and National peer reviewed paper publication that adds credit to his career. He is associated with International and National journals as editor and reviewer board member and he has also been invited as a keynote speaker globally. He also encourages and motivates the authors to explore with new innovative ideas in the field of research. Currently, he is a researcher and walks in the right path of motivation by providing a heart of service for the patients as an Oral and Maxillofacial Surgeon in RYA Cosmo Foundation, Chennai, India. His research interest include: Dentistry; trauma of maxillofacial region; dentoalveolar surgeries; pathologies of maxillofacial region; bone grafts; dental implants; temporomandibular joint disorders, cleft anomalies, reconstruction of jaws.

POSTERS

DAY 01

2ND EDITION OF WORLD CONGRESS ON

INFECTIOUS DISEASES

17-18 JUNE

Seema Mittal*, Surender Kumar

Associate Professor, Microbiology, BPS GMC, Khanpurkalan, India

Professor and Head of Microbiology, BPS GMC, Khanpurkalan, India

Prevalence of rifampicin resistance in pediatric tuberculosis vases in rural area of Northern India

Background: Globally, tuberculosis (TB) continues to exact an unacceptably high toll of disease and death among children, particularly in the wake of the HIV epidemic. Increased international travel and immigration have seen childhood TB rates increase even in traditionally low burden, industrialised settings, and threaten to facilitate the emergence and spread of multi-drug resistant strains. While intense scientific and clinical research efforts into novel diagnostic, therapeutic and preventative interventions have focused on TB in adults, childhood TB has been relatively neglected. However, children are particularly vulnerable to severe disease and death following infection, and those with latent infection become the reservoir of disease reactivation in adulthood, fueling the future epidemic. Further Advances in our understanding of TB in children would provide wider insights and opportunities to facilitate efforts to control this ancient disease.

Aim: To find prevalence rate of tuberculosis and multi drug resistance tuberculosis in pediatric age group.

Material and Methods: This was a retrospective observational study done in department of Microbiology of Bhagat phool Singh Government Medical college , Khanpurkalan, Sonepat, Haryana during a time period of nine months from January 2021 –september 2021. A variety of clinical samples were collected from suspected patients of pediatric age group (0-14 years) including samples from OPD and IPD patients. These samples were processed for diagnosis of Mycobacterium tubercle bacilli via CB-NAAT as per standard protocol and results were recorded both digitally as well as manually.

Results: A total of 1279 various clinical samples were processed, out of which 46 samples were from pediatric age group. Among these 46 clinical samples , 10 (21.74%) samples came to be positive with Mycobacterium tuberculosis and resistance to Rifampicin was detected in one(2.17%) sample (Intermediate level). This positivity rate was most prevalent in age goup of 13-14 years old patients (32.60%) followed by age group 11-12 years old patients (17.4%).

Conclusion: Tuberculosis in children is an epidemiological indicator of recent transmission of Mycobacterium tuberculosis in the community. Efforts must be made to collect microbiological specimens before initiating treatment whenever possible. Management by an experienced paediatrics team allows an accurate diagnosis even when microbiologic confirmation is not possible.

Keywords: Tuberculosis, Mycobacterium tuberculosis, Paediatrics, Diagnosis.

Audience Take Away:

- This study explains an important role of pediatric age group tuberculosis, in higher prevance rate of tuberculosis cases in India, which are usually not diagnosed at all. These cases most of the times remain hidden in society and act as source of infection to other person in contact.
- Therefore, refined use of technology, clinical expertise, specific focus on suspected pediatric population for screening tuberculosis with prompt / continuous treatment can alter this higher prevalence of endemic tuberculosis in India.

Biography

Dr. Seema is a medical microbiolgist graduated her M.D. Microbiology in 2013 from Pt B.D.S PGIMS, Rohtak , Haryana, India. She then joined the Health university Rohtak as Sr. Resident in department of Microbiology, followed byjoining as Assistant professorship at BPS GMC, SONEPAT, INDIA. Now she is working at the position of an Associate Professor at the BPS GMC. She has published more than 30 research articles in SCI (E) pubmed and various other indexed journals.

Rosanova, M T *; Voto C; Carnovale S; Tramonti N; Lema J; Pinheiro J L; Isasmendi A; Alvarez V; Villasboas R M; Laborde S, Highton E, Trugman F and Caracciolo B, Juan P. Garrahan

University of Buenos Aires, Argentina

Osteomyelitis in pediatric burn patients in a pediatric burn unit from Argentina

Introduction: Osteomyelitis in burn patients is rare.

Objective: To describe the clinical, microbiological and evolution characteristics of burned children with osteomyelitis hospitalized in a high complexity hospital.

Goal: To describe the clinical, microbiological and outcome of children diagnosed with osteomyelitis hospitalized in a tertiary Pediatric Burn Unit.

Methods: Retrospective and descriptive study carried out during the period from January 2007 to January 2017.

Results: Of a total of 600 burned children, 12 presented osteomyelitis (incidence of 2%). Eleven patients presented burns due to direct fire. The median age was 42.5 months (interquartile range -IQR- 27-118 months) and the burned area was 33.5% (IQR 18.5-58%). Osteomyelitis was diagnosed a median of 30 days post-burn. The most frequent locations were the upper extremities and the calvaria. Fever was the most common clinical manifestation. The most frequently isolated microorganisms in bone tissue were fungi in 9 patients. All presented compatible pathological anatomy. The median of treatment was 44.5 days (IQR 34.5-65.5 days). Six patients presented motor sequelae and 1 patient died.

Conclusion: Fungal etiology was the most frequent. Half of the patients presented functional sequelae and only one patient died.

Biography

Dr. Maria Teresa Rosanova MD. PhD. Pediatric Infectologist Doctor of Medicine from the University of Buenos Aires. Clinical Head of the Infectious Disease Service Hospital de Pediatría Juan P. Garrahan.

Nashwa M. Al-Kasaby*[1], Maysaa El Sayed Zaki[1], Abdel-Rahaman Eid[2], Amany Y. El Ashry[1]

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Molecular study of norovirus in pediatric patients with gastroenteritis

Acute diarrhea is a common cause of morbidity in children worldwide. Rotavirus, as an etiology of acute diarrhea, has been decreased after the implementation of vaccine and norovirus has become the most prevalent viral etiology of acute gastroenteritis. Norovirus is a non-enveloped RNA virus associated with acute gastroenteritis transmitted by fecal-oral route in all age group. The aim of the present study was to detect the prevalence of norovirus and genotypes determination by real-time PCR among children below 18 years as an etiology of acute gastroenteritis and to compare rapid detection of norovirus by Enzyme-Linked Immunoassay (ELISA) to virus detection by real-time PCR. The research was a cross-sectional study conducted on children below 18 years complaining of community-acquired acute gastroenteritis.

A stool sample was subjected to direct-antigen detection by ELISA for norovirus and molecular study by real-time polymerase chain reaction. The study included 200 children with acute gastroenteritis with a mean age of 6.7±3.8 years. Norovirus antigen was detected by EIA in 34.5% and by real-time PCR in 30.5% of studied children with genotype GII, the predominant detected genotype (80.97%). Both real-time PCR and antigen detection of norovirus were positive in 43 (70.5%) of the children and negative in 113(81.3%) of the studied children. The sensitivity, specificity, positive predictive value, negative predictive value and accuracy for antigen detection by ELISA were 70.5%, 81.3%, 62.3%, 86.3% and 78%, respectively. Comparison between patients positive for norovirus and those negative for norovirus by real-time PCR revealed non-significant difference as regards age, sex, the season of occurrence and residence.

Audience Take Away:

- The present study highlights that norovirus prevalence is common among pediatric patients with gastroenteritis above 5 years with GII genotype as the prevalent genotype.
- There was a significant correlation between positive and negative results of antigen detection of norovirus by ELISA and detection of RNA of norovirus by real-time PCR in stool samples.
- However, the screening for norovirus by ELISA has limited sensitivity and needs to be associated with a molecular method for accurate diagnosis of sporadic cases of gastroenteritis.

Biography

Dr. Nashwa Elkasaby, MSc, PhD is an associate professor of Medical Microbiology and immunology at the University of Mansoura. She received her, Ph.D. degree in Medical Microbiology with a specialization in Virology 2011 from Faculty of Medicine, Mansoura University, Egypt. Dr. Nashwa has an experience of more than 15 years in research and teaching and has collaborated with researchers from different countries. A longside her academic work, Dr. Nashwa was an active member in Infection prevention and control Committee and Antibiotic Stewardship Programs in Mansoura university hospitals (Egypt) and Sohar hospital (Oman).

Anas Alyousef*[1], Mubarak Alfaresi[2], Nenad Pandak[3], Nervana Habashy[4]

[1]Amiri Hospital, Kuwait
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[4]Medical Science Liaison, UAE

Overview of urinary tract infections (UTIs) in adults in five Arabian gulf countries : A literature review

Background: Urinary tract infections (UTIs) are the most common bacterial infections in adults that compels immediate treatment to avoid serious complications. However, selecting the appropriate antibiotic therapy is challenging because of the emerging antibiotic resistance. The purpose of this narrative literature review is to gain knowledge on the prevalence of UTIs, predominant etiological agents, common risk factors, resistance patterns, and current antimicrobial therapy in five Arabian Gulf countries.

Methods: A literature search was conducted for articles published from five Gulf countries (United Arab Emirates, Bahrain, Qatar, Oman, and Kuwait) between October 2011- September 2021 using "PubMed" and "Google Scholar" databases. Articles were eligible for inclusion if they were retrospective or prospective research studies conducted on adult patients or meta-analyses of such studies. The search was limited to English language.

Results: UTIs were found to be more common among women than men across the region. The mean age of UTI patients ranged between 39 and 55.6 years. Uncomplicated and complicated UTIs accounted for 78.70% and 6.40%, respectively.

Renal transplant, diabetes and prolonged catheterization were common risk factors for UTIs. Among renal transplant recipients, 35.19% had symptomatic UTI and 86% had symptomatic and asymptomatic bacteriuria. The rate of UTIs among diabetic patients was reported as 35%, detected by urine analysis. Additionally, the overall rate of catheter associated UTI (CAUTI) varied from 0.4 to 9 per 1000 catheter days.

Escherichia coli was noted to be the primary uropathogen (11.1% to 32.5% for hospital-acquired (HA-UTI) and 61% to 76.5% for community acquired (Ca-UTI)), followed by Klebsiella pneumoniae (6% to 40% for HA-UTI and 16.4% to 23.5% for Ca-UTI), Acinetobacter baumannii (16.7% to 37.5% for HA-UTI and 0.52% for Ca-UTI), Pseudomonas aeruginosa (2% to 17.5% for HA-UTI and 0.8% for Ca-UTI), and Staphylococcus aureus (around 3% for HA-UTI and 0.81% for Ca-UTI). Prevalence of methicillin-resistant S. aureus was found to be 9.09% among overall UTI patients. The major extended spectrum beta-lactamase (ESBL) producing organisms were E. coli (11.1% to 32.5% for HA-UTI, 23% to 27.4% for Ca-UTI and 38.4% in CAUTI) and K. pneumoniae (16.6% to 20% for Ca-UTI and 56.7% for CAUTI).

The prevalence of carbapenem-resistant E. coli and carbapenem-resistant K. pneumoniae in Ca-UTI was documented to be 0.12% to 0.34% and 0.89%, respectively.

The most commonly prescribed antimicrobials included ciprofloxacin, ceftriaxone, and co-amoxiclav. E. coli and K. pneumoniae exhibited increased resistance against ampicillin (31% - 100%) and cotrimoxazole (42.7% - 100%), and low resistance to amikacin, piperacillin-tazobactam and meropenem.

Conclusion: Evolving antibiotic resistance is becoming a therapeutic challenge and proving to be an emerging public threat across the region. There is an evident need for reliable regional epidemiological studies to ascertain the burden of UTIs, and to assess appropriateness of empiric antibiotic therapy and the impact on patient outcomes in different UTI settings. Enhanced surveillance is recommended to monitor antimicrobial resistance in UTIs.

Keywords: Adults, Antibiotic resistance, Gulf countries, Urinary tract infections.

What will the audience learn from your presentation?

- The paper sheds light on the epidemiology and etiology of UTIs in five Gulf countries. The findings highlight the prevalence of UTIs in specific population groups and shows the difference in etiology between Ca-UTI and HA-UTI in the region.

- The paper highlights that UTI management should be tailored based on patient risk factors and suspected MDR bacterial infection.
- Commonly prescribed antibiotics demonstrated increased resistance. Therefore, there is a need for novel antimicrobials to tackle the emerging antimicrobial resistance.
- Increasing multi-drug resistance in UTIs across the region is a concern that necessitates judicious use of antibiotics. Moreover, there is an increase in the prevalence of carbapenem-resistant bacteria among patients with Ca-UTI which warrants urgent action. The insights shared in this review can be vital in developing effective Antimicrobial Stewardship (AMS) programs in the region.
- The paper calls attention to the need for studies to assess the appropriateness of empiric antibiotic therapy and impact on patient outcomes. Data obtained from such studies can prove to be fundamental in drafting local guidelines on the use of antimicrobials and supporting proper management. Such data can also be insightful to researchers seeking to expand their research on the same topic. Additionally, there is a prerequisite for large epidemiological studies to assess the burden of UTIs across the region.

Biography

Dr. Anas Alyousef is the Vice President of Kuwait Nephrology Association. He is a consultant in Internal Medicine & Nephrology and is the Head of Nephrology and dialysis centers at Amiri Hospital, Kuwait. He holds a Canadian Board Certificate in Internal Medicine (2008) and in Nephrology (2009) from University of British Columbia, Vancouver, Canada.

Asmaa Al-Rashed*[1], Walid Abuhammour[1], Zakariya Yahya Al-Balushi[2], Nervana Habashy[4]

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Overview of intra-abdominal infections in five gulf countries : A literature review

Intra-abdominal infections (IAIs) are the most common cause of morbidity and mortality in surgical emergency patients. Early appropriate antimicrobial therapy is challenging because of the emerging antimicrobial resistance (AMR) leading to prolonged hospitalization and increased mortality, morbidity and healthcare costs. The article aimed to review epidemiology, etiology, resistance patterns and current antimicrobial therapy for IAIs in five Gulf countries.

Methods: Literature search was conducted for published articles from five Gulf countries (United Arab Emirates, Bahrain, Qatar, Oman and Kuwait) between January 2011 - September 2021 using "PubMed" and "Google Scholar". Retrospective or prospective research studies conducted on adult/paediatric patients or meta-analyses of such studies in English language only were included.

Results: From 69 screened studies, 18 met the inclusion criteria. Mean age of IAIs patients ranged between 29.6 - 53.2 years with male predominance (52.9 – 95.6%) noted across all clinical entities of IAIs. Among IAIs patients, 61% were appendicitis, peritonitis (55% with single episode and 45% with multiple episodes), intra-abdominal abscess/pelvic abscess formation (46.4%), perforated duodenal ulcers (20.0%), bowel injury (57.5% for small bowel, 33.1% for colon, and 9.4% for combined small and large bowel), diverticulitis (3%) and small bowel perforation (1%).

Positive cultures were reported in 46.26% with liver abscess, 62.2% with peritonitis, and 3.32% with patients who underwent appendectomies. The common causative pathogens differed based on the site of infection. The most common cultured bacteria in peritonitis were *Staphylococcus epidermidis* (21%), *Pseudomonas aeruginosa* (14%) and extended spectrum beta-lactamase producers (ESBLs 3%). In Peritonitis patients undergoing peritoneal dialysis, *Staphylococcus* was the main causative pathogen (14.9%) followed by *Streptococcus* (13.2%).

Common pathogens isolated from blood culture of pyogenic liver abscess were *Klebsiella pneumoniae* (38%), *Streptococcus melleri* (11%), *Escherichia coli* (4%), *Prevotella bivia* and *Enterococcus bovis* (2%).

For surgical site infections following appendectomies, ESBL *Escherichia coli* represented 60%, *Pseudomonas aeruginosa* (20%) and *Escherichia coli* (non-ESBL), *Enterococcus faecalis*, *Klebsiella pneumoniae* (ESBL) were reported to be 5% each.

For pyogenic liver abscess, the mean duration of hospitalization was 13.6 ± 8.1 days, and the mean duration of antibiotic therapy was 34.7 ± 40.6 days. A mean length of stay of 6.42 days was reported with complicated appendicitis versus 3.82 days with non-complicated appendicitis. Higher in-hospital mortality in patients infected with multi drug resistant (MDR) bacteria as compared to those infected with other bacterial isolates (16.6% vs. 4.9%). Prolonged antibiotic usage was reported in patients who refused invasive procedures and received solely intravenous antibiotics for 14 days followed by 4 weeks of oral antibiotics.

Commonly prescribed antibiotics included ceftazidime, vancomycin, cefepime, meropenem, piperacillin/tazobactam, tigecycline and metronidazole. Inappropriate use of empiric piperacillin-tazobactam for peritonitis was reported.

Conclusion: IAIs are heterogenous set that poses significant management challenge. A call for attention to generate more reliable regional epidemiological studies on IAIs in adults and paediatrics which would provide a strong foundation for better understanding and management. Enhanced surveillance is crucial to monitor evolving AMR in IAIs and support stratified management approach. Antimicrobial stewardship efforts focused on IAIs are recommended to guide appropriate antibiotic usage.

Audience Take Away:

- This review showcases the epidemiology of various infections within IAIs and their etiology considering causative pathogens differ from one site of infection to another.
- The review also highlights the rise in resistant pathogens and their impact on mortality, reflecting the need for novel antimicrobials.
- Inappropriate antibiotic use was noted in some of the studies which warrants steps to be taken for justified use of antibiotics to curb the rise of MDR bacteria. This demonstrates the importance of implementing antimicrobial stewardship (AMS) programs to ensure appropriate antibiotic use in the region.
- The abstract highlights the scarcity of clinical data for IAIs from the five Gulf countries and emphasizes on the need to conduct reliable epidemiological studies on IAIs in adults and pediatrics which would provide a strong foundation for a better understanding and management of IAIs in the region.
- It also emphasized that enhanced surveillance is required to monitor increasing AMR in IAIs and tailor management strategies based on the information gathered.

Biography

Dr. Al-Rashed practices as general and a bariatric surgeon and as an intensivist in the in Al-Amiri Hospital, Kuwait. She is a Fellow of the Royal college of Surgeons of Canada and a Fellow of the American College of Surgeons. She has received her board certification and training in general surgery at McGill University, in Montreal, Canada. She is the Assistant Program Director of the Surgical Foundations Program, a clinical tutor and a lecturer for the Kuwaiti Boards of Surgery and the Critical Care in Kuwait Institute for Medical Specialization (KIMS).

KEYNOTE FORUM

DAY 02

2ND EDITION OF WORLD CONGRESS ON

INFECTIOUS DISEASES

17-18 JUNE

Gayatri Tripathi*, R. Bharathi Rathinam, Monalisha Kumar and Amulya, S.G.

Department of Aquatic Animal Health Management, Maharashtra, India

Prevalence of Vibrio sp. in farmed shrimp and application of probiotics as a possible strategy for the prevention and treatment

Vibrio is a well-known opportunistic bacterial pathogen with a long history of causing substantial economic losses and mass mortality in shrimp aquaculture. It can cause up to 100% mortality and is estimated to cost the shrimp industry $3 billion in global losses each year. Early mortality syndrome (EMS), also known as acute hepatopancreatic necrosis disease (AHPND), is one of the most recent cases of vibrio-related diseases and it has put a significant dent in Asian shrimp production profits over the last decade. The causative pathogen Vibrio parahaemolyticus is also associated with seafood contamination leading to food-borne illnesses around the world. Studies were conducted to record the pathogenic profile of *Vibrio sp*., their virulence, abundance and qdistribution in shrimps farmed in Inland saline water and if their pathogenicity is influenced by any kind of alterations in salinity. A total of 181 Vibrio isolates comprised of 12 species i.e., *Vibrio parahaemolyticus* (22.65%), *V. alginolyticus* (17.13%), *V. cholerae* (12.15%), *V. fluvialis* (11.60%), *V. vulnificus* (8.84%), *V. furnissii* (8.84%), *V. campbellii* (7.73%), *V. harveyi* (6.63%), *V. proteolyticus* (2.76%), *V. splendidus* (0.55%), *V. mimicus* (0.55%) and *V. mediterranei* (0.55%) were recorded from the inland saline shrimp farms. Among them, 32 Vibrio isolates exhibited positive results on many of the virulence potential tests such as salt tolerance test, slime formation ability and various hydrolytic assays. Such virulent Vibrio isolates have already been reported to cause several diseases in shrimp farming. The reports on the presence of multiple drug-resistant Vibrio sp. in shrimp aquaculture systems emphasizes the need to find alternative measures to control this bacterial pathogen in shrimp farming. To combat Vibrio infection in shrimp farming, probiotics have acquired popularity as an alternative to antibiotics and as a bioaugmentation strategy. An experiment was conducted to determine the effect of probiotic on the health and vibriosis of shrimp *Litopenaeus vannamei*. A probiotic feed was used for healthy and vibrio challenged shrimp. The results showed that the probiotic-fed shrimp displayed better growth and survival rate than the control and significantly improved the resistance of *L. vannamei* to this bacterial infection.

What will the audience learn from your presentation?

- It will help the audience to understand the prevalence of Vibrio pathogen in farmed shrimp and the need for a strategy to mitigate the disease.
- The presentation will also explore the importance of a probiotics-incorporated diet to combat vibrio infections that can also reduce the antimicrobial resistance issues in shrimp culture systems. The growth and survival of experimental animals were found to be higher in the probiotic administrated group than in the control, indicating the possible solution for preventing and controlling vibriosis.

Biography

An accomplished scientist and experienced professional, armed with a Ph.D. degree in Life Sciences. She is working as a Principal Scientist in the Aquatic Environment and Health management Division of the Central Institute of Fisheries Education, Mumbai. She possesses comprehensive experience in aquatic animal diseases & their diagnostic research encompassing embryonic stem cell biology, nanotoxicology, and immunotoxicology.A recognized researcher in the field of fish disease diagnosis and therapy with an enviable track record of scientific achievements through publications as well as researching and implementing new scientific concepts and procedures. More than 50 publications comprising papers in international journals and national journals and book chapters. She has 1483 citations to her name and has achieved an i10 index of 29.

Hector Javier Gallardo Valencia*, Maritza Ivonne Rodriguez Silva

School of veterinary medicine and zootechnics, University of michoacan/ morelia, Mexico

Effect of ozone on hematological parameters

Ozone therapy has been used for therapeutic purposes since the end of the 17th century, in different modalities with unexpected therapeutic results in some pathologies. However, there is still a high prejudice in the medical community in general to the use of this therapy (Schwarts & Martinez-Sanchez, 2012). The objective of the present investigation was to compare the effects of ozone applied by rectal insufflation on hematic cells, both the red and white formulas with different levels of ozone and measured at 24, 48 and 72 hours post application. 3 batches of 5 rabbits each were used in which 3 different doses of ozone were applied by rectal insufflation: the first batch only oxygen, the second batch 35 micrograms/ml/kg of live weight of ozone and the third batch 70 micrograms/ml. ml/ kg live weight of ozone.

The results of the hemograms were concentrated in tables and the data was entered into the SAS statistical program, showing in table 5 ANOVA at 24 hours significant differences in leukocytes and segmented neutrophils, likewise at 48 hours significant differences are also observed, maintaining the segmented neutrophils and adding lymphocytes and monocytes. As conclusions, it can be ensured that, with the administration of ozone rectally, bone marrow and the immune system are stimulated for the production and release of leukocytes into the blood circulation and the use of ozone therapy has demonstrated its effectiveness in inducing immune responses and stabilization in the lymphocyte production.

Audience Take Away:

- Importance of the use of ozone therapy.
- Impact of ozone therapy on hematological parameters.
- Effects of ozone therapy on the immune system.

Biography

Dr. Hector Javier Gallardo Valencia studied Veterinary at the Michoacana University, México and gradruated as MS in 2001. He has worked with wild species and private clinical with small animals. He received his PhD degree 1n 2015 at the Oviedo University. He obtained the position of an Associate Professor. He has published a several research articles.

SPEAKERS

DAY 02

2ND EDITION OF WORLD CONGRESS ON

INFECTIOUS DISEASES

17-18 JUNE

[1]Anju Kaushal* and [2]Rashed Noor

[1]Assistant Professor (Former), New Zealand

[2]Associate Professor, Independent University Bangladesh(IUB), Bangladesh

Changing microbiota in hospitalized patients increase the COVID-19 severity, a possible cause of developing the dysregulated immune response- A literature study

Human physiological homeostasis and onset of the disease, is largely depend on the interactions among resident microbiome of skin, oral cavity, respiratory tract, gastrointestinal system, genital area, and host's protective immunity. Gut probiotics like *Faecalibacterium prausnitzii, Eubacterium rectale* and *bifidobacteria*, influence the immunomodulatory signaling, were noted to be depleted in hospitalized patients even after the disease resolution than healthy individuals. IBD is induced by SARSCoV-2, could stimulate the severity events via alteration of the gut microbiota during/ after the respiratory infection. The viral RNA signature in the faecal samples of recovered patients and its presence for longer period, even after the clearance of the virus from respiratory tract, is suggestive of dysbiosis leading to the poor prognosis of COVID-19 in ICU patients.

GM plays a significant role to stimulate the modulated antiviral immune response against invading pathogens regulating the physiological homeostasis. GM profile of COVID-19 patients has revealed the drastic depletion of dominant families of commensals viz., *Bacteroidaceae, Lachnospiraceae* and *Ruminococcaceae*, were reported to be substituted with *Enterococcus, Staphylococcus, Streptococcus, Serratia* etc.; consequently, developing the dysfunctional activities of Th1-Th2 cells along the lung-gut axis exchanging microbes & other toxic metabolites and translocating them to the other body organs too. It is also speculated that the gut virome and bacteriophages could also interfere in maintaining / or disrupting the homeostasis. Excessive secretion of chemokines and cytokines cause ARDS, interstitial pneumonia and organ failure. Virome/ and microbiome also interact with immune cells to regulate the immune signaling mechanisms. Therefore, it is imperative to build strategies to develop novel therapeutics in controlling these hyperinflammatory severity events.

Audience Take Away:

- Transitional microbiota during respiratory infections, could interfere with changing immune signals responsible for causing COVID-19 severity along with secondary infections.
- Microbiome research is on the top of the headlines in the current timings, the researchers can utilize this new tool to study their impact in many communicable and non-communicable diseases.
- The studies conducted on dysbiosis occurred in hospitalized patients, have shown that there would be tremendous opportunities to translate this knowledge into the practical solutions, such as, impact of the interactions of SARS CoV-2 with enteric cells and its outcome in patients with asymptomatic and symptomatic IBDs. Development of new biomarkers causing dysbiosis would help develop new diagnostics. New treatment discoveries using various combination of commensals may control the hyperinflammatory response and poor prognosis of the disease.
- Implication of long-term presence of viral RNA in feces and dysbiosis and their relationships with long COVID-19 symptoms.

Biography

Dr. Anju Kaushal received her MSc. Microbiology from Central Research Institute, Kasuali, India in 1993 and awarded with PhD Microbiology from Panjab University, Chandigarh, India in 2003. She worked in various scientific & medical institutes and companies in India and New Zealand. Her expertise is in Science and Technology, R&Ds, Productions and QA/QC in the field of biologicals, diagnostics and academia. She worked on Rabies, Aspergillus, Candida, HIV, enzymes and fermentation technologies. Her area of interest includes vaccines, sera & diagnostic development & production and on novel therapeutics on advancing technologies. She also attained, more than six years of experience in Business Management, Brand & Marketing, Communication & Information and as a Freelancer- she guided many PhDs and scientists in their careers. She has published 12 articles in Scientific Journals and more than 40 articles on LinkedIn.

Taif Shah

Faculty of Life Science and Technology, Kunming University of Science and Technology, China

Pathogenesis of SARS-CoV-2-mycobacterium tuberculosis coinfection, their prevention, and treatment

Coronavirus disease-2019 (COVID-19), caused by SARS-CoV-2, is an infectious disease that poses severe threats to global public health and significant economic losses. The COVID-19 global burden is rapidly increasing, with over 246.53 million COVID-19 cases and 49.97 million deaths reported in the WHO 2021 report. People with compromised immunity, such as tuberculosis (TB) patients, are highly exposed to severe COVID-19. Both COVID-19 and TB diseases spread primarily through respiratory droplets from an infected person to a healthy person, which may cause pneumonia and cytokine storms, leading to severe respiratory disorders. The COVID-19-TB coinfection could be fatal, exacerbating the current COVID-19 pandemic apart from cellular immune deficiency, coagulation activation, myocardial infarction, and other organ dysfunction. This study aimed to assess the pathogenesis of SARS-CoV-2-Mycobacterium tuberculosis Coinfections. We briefly overview COVID19-TB coinfection and discuss SARS-CoV-2 host cellular receptors and pathogenesis. In addition, we discuss M. tuberculosis host cellular receptors and pathogenesis. Moreover, we highlight the impact of SARS-CoV-2 on TB patients and the pathological pathways that connect SARS-CoV-2 and M. tuberculosis infection. Further, we discuss the impact of BCG vaccination on SARS-CoV-2 cases coinfected with M. tuberculosis and the diagnostic challenges associated with the coinfection.

National Health Commission of the People's Republic of China has recommended certain TCM formulas, namely Jinhua Qinggan granule (JHQGG), Lianhua Qingwen granule (LHQWG), Qingfei Paidu decoction (QFPDD), Xuanfei Baidu granule (XFBD), Xuebijing injection (XBJ), and Huashi Baidu granule (HSBD) for treating COVID-19 infected individuals. Among these six TCM formulas, JHQGG and LHQWG effectively treated mild/moderate and severe COVID-19 infections. XFBD therapy is recommended for mild COVID-19 infections, while XBJ and HSBD effectively treat severe COVID-19 infections. The internationalization of TCM faces many challenges due to the absence of a clinical efficacy evaluation system, insufficient research evidence, and a lack of customer trust across the globe. Therefore, evidence-based research is crucial in battling this infectious disease. This review summarizes SARS-CoV-2 pathogenesis and the history of TCM used to treat various viral epidemics, with a focus on six TCM formulas. Based on the evidence, we also dis- cuss the composition of various TCM formulas, their underlying therapeutic mechanisms, and their role in curing COVID-19 infections. Furthermore, we highlighted the efficacy and side effects of single prescriptions used in TCM formulas.

Audience Take Away:

- In this presentation, I will discuss the pathogenesis of SARS-CoV-2-M. tuberculosis coinfections, SARS-CoV-2 host cellular receptors, and M. tuberculosis host cellular receptors.
- I will also highlight the impact of SARS-CoV-2 on TB patients and the pathological pathways that connect SARS-CoV-2 and M. tuberculosis infection. Further, I will discuss the impact of BCG vaccination on SARS-CoV-2 cases coinfected with M. tuberculosis and the diagnostic challenges associated with the coinfection.
- Moreover, I will highlight the importance of different Chinese Traditional Medicines (TCMs) in the effective treatment of COVID-19 patients.
- This will help the audience to understand SARS-CoV-2 and M. tuberculosis infection process and their prevention and possible treatment.

Biography

Dr. Shah studied Microbiology at Hazara University, Pakistan, and graduated MS in 2015. He then joined the research group of Prof. Cui Xiuming at the Faculty of Life Science and Technology, Kunming University of Science and Technology (KUST), Kunming, Yunnan, China. He received his Ph.D. degree in 2021 at the same institution. He then joined the research group of Prof. Xia Xueshan at the same faculty and institution for his postdoctoral fellowship program. He has published more than 25 SCI research articles in well-reputed journals.

Sayan Bhattacharyya*, Atul Raj, Amit Banik

Department of Microbiology, AIIH&PH, India

Urinary tract infections : A persisting public health concern

Introduction: Urinary tract infections (UTI) are still very common in community as well as nosocomial setting. It is often found to have a seasonal occurrence. They are more common in adult females as compared to males. Escherichia coli is the predominant pathogen causing UTI.

Materials and methods: We collected available information on internet and also presented our own experience regarding the common uropathogens and their susceptibility patter. Samples came from the OPD and were inoculated on CLED agar and incubated at 37°C overnight, and also observed microscopically at 40X for WBCs, crystals and bacteria. A cut-off colony count of 10^5 CFU per ml was taken as significant bacteriuria.

Results: UTI was significantly more common in females than males. In females, age of patients affected by UTI ranged from 3 years to 60 years. The single male patient was 68 years old. Over a 1- year period, the ratio of females: males having UTI in community as evident from OPD samples, was 13:1. *Escherichia coli* is the commonest uropathogen in females, followed by *Staphylococcus aureus* and *Enterococcus* spp. About 75% of uropathogenic *E. coli* were resistant to Nitrofurantoin, a common drug prescribed in OPD for UTI. All the *Staphylococcus aureus* strains isolated, were MRSA. In males the single uropathogen found was *Enterococcus fecalis*.

Conclusion: Urinary tract infections are very common in community, and prescribing empirical drugs need to be based on antibiotic susceptibility data. Even in the community, due to illicit and over-the-counter antibiotic usage, resistance to common uropathogens is now high.

Audience Take Away:

- UTI is very common.
- It should not be neglected.
- A AMR data on Uropathogens in a given area is needed.
- Explain how the audience will be able to use what they learn? It will be helpful for students, clinicians and researchers since they will get to know clinico-microbiological correlation.
- How will this help the audience in their job? It will help them do their work and also have good publications, and thereby help in securing job.
- Is this research that other faculty could use to expand their research or teaching? Yes, definitely.
- Does this provide a practical solution to a problem that could simplify or make a designer's job more efficient? Yes, it can help devise simpler urine culture or AMR techniques.
- Will it improve the accuracy of a design, or provide new information to assist in a design problem? Yes.
- It will be helpful for reading of students and also help in epidemiological studies on Uropathogens.

Biography

He did MBBS from Medical College, Calcutta, MD (Microbiology) from: PGIMER, Chandigarh. He has Post-MD working experience: 14 years. Presently he is working as Associate Professor, Department of Microbiology, All India Institute of Hygiene and Public Health (AIIH&PH), Kolkata. He is reviewer and editorial board member of many medical journals and Life member: IAMM, SIHAM (ISMM), etc. He received awards: (a) 1st prize in English essay competition on "One health and Rabies", organized by Pashudhan Praharee, 2021. (b) Second prize in oral category in STMIDI TROPICON, 2018, Kolkata. His research interest include: Mycology, Bacteriology, Antimicrobial resistance.

Amit Kumar Kesharwani*[1,2], Dinesh Singh[1] and Anupama Sharma Avasthi[2]

[1]ICAR-Indian Agricultural Research Institute, India

[2]Amity University, India

Whole-genome sequencing and comparative analysis of Indian race 4 of xanthomonas campestris pv. campestris causing black rot disease in brassica oleracea var. capitata

Xanthomonas campestris pv. *campestris* is a causative agent of black rot disease of cruciferous crops. A whole- genome sequence of any race of *X. campestris* pv. *campestris* has not been reported from India. The isolate Xcc-C7, race 4, of *X. campestris* pv. *campestris* was isolated from cabbage (*Brassica oleracea var. capitata*) from Bengaluru, in the southern parts of India. Whole-genome sequence data were generated by the next-generation sequencing based single-molecule real-time sequencing (SMRT) techniques. The complete genome assembly was composed of 5,121,051 bp and has a total GC content of 64.98%. Of 4,493 total genes, 4,347 CDS and 4,217 genes with assigned function were predicted in Xcc-C7 strain. The profiles of 146 RNA encoding genes were identified, including 6 ribosomal RNA-encoding genes, 54 transfer RNA encoding genes, and 86 noncoding RNAs.

This whole-genome sequence data has been deposited in the NCBI Gen Bank database (CP077958). The comparative analysis of genomic features of Indian race 4 with genomes of four other strains (namely, *X. campestris pv. campestris* B100, 8004, CFBP5817, and ATCC33913) elucidates that the Indian race 4 is closely related to the Chilean strain CFBP5817. Furthermore, 19 genes of Xcc-C7 strain were identified as putative candidate genes that may play role in adaptation of cabbage as a host. Found in common with genes of strain 8004, which were validated genes of pathogenicity. The phylogenetic tree of whole genome assemblies of the five strains showed that Xcc-C7 is closely related to CFBP5817, as compared with B100, ATCC33913, and 8004, suggesting that both strains CFBP5817 and Xcc-C7 belong to *X. campestris* pv. *campestris* race 4. This study will improve our knowledge of genomic diversity in *X. campestris* pv. *campestris* and pave the way for research on host–pathogen interactions (crucifer crops–*X. campestris* pv. *campestris*) to develop resistance in cultivated Brassicaceae crops.

Audience Take Away:

- The whole-genome sequence will be used to study the diversity, geographical changes and host specific development of pathogenicity genes in *X. campestris* pv. *campestris.*
- The outcomes of the study will be used to study the host-pathogen interaction to develop the resistance in Brassicaceae crops.
- The comparative analysis of genomic features of Indian race 4 of Xcc with other strains will also enhance the understanding of host specific development of disease in crucifer crops.
- Availability of genome resources of *X. campestris* pv. *campestris* from India.

Biography

Mr. Amit Kumar Kesharwani Post-graduated in Microbiology from Gurukul Kangri Vishwavidyalaya, India in 2012. He has his expertise in microbiology, plant pathology and plant-microbe interaction. He then joined prestigious research laboratories in India to learn and gained experience in the field of Plant pathology and Biotechnology during 2012-2018. His research work enhances the understanding of bacterial pathogenesis in host. He has joined the research group of Dr. D. Singh at ICAR-Indian Agricultural Research Institute and Dr. A.S. Avasthi, Amity University, India to pursuing his Ph.D. degree in Biotechnology since 2018. He has published more than 6 research articles in SCI(E) journals & recipient of Junior and Young Scientist Awards.

Rehab Mahmoud Abd El-Baky[1,2],*, Esraa R. Shady[2], Fatma Y. Ahmed[1] and Hala Rady Ahmed[1]

[1]Professor of Microbiology & Immunology, Faculty of pharmacy, Minia University, Head of Microbiology & Immunology, Faculty of Pharmacy, Deraya University, Egypt

[2]Department of Microbiology and Immunology, Faculty of Pharmacy, Minia University, Egypt

COVID-19 associated fungal infections due to the disturbance in infection control measures

Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) pandemic is still difficult to be controlled by the emergence of new variants which are considered a great challenge worldwide. Disturbance in infection control guidelines implementation, use of steroids, strong antibiotics, hospital crowdedness and repeated use of oxygen masks during the management of critically ill COVID-19 patients lead to the increase in the rate of opportunistic infections. So, patients need to fight both the virus with its different variants and opportunistic pathogens including bacteria and fungi especially patients with diabetes mellitus, malignancy, or those who undergo hemodialysis and receiving deferoxamine. During the pandemics, the emergence of many cases of Mucormycosis fungal infection was observed in many different countries. Delayed and difficult diagnosis, the need for surgical debridement of necrotic tissues, controlling the progression of the disease, difficulty in intubation and the management of renal impairment that results from prolonged antifungal therapy are the main challenges regarding Mucormycosis. We will discuss risk factors that increase the chance of the infection by opportunistic pathogens especially fungal pathogens, recent challenges, and control measures.

Audience Take Away:

- Overview on COVID-19 pandemic.
- Risk factors increasing the chance of developing secondary bacterial and fungal infections.
- Mucormycosis associated with COVID-19 infection.
- ICU unit's environment and the implemented infection control measures as the first line of protection against infection.

Biography

Professor Rehab Mahmoud Abd El-Baky studied pharmaceutical science at Faculty of Pharmacy, Assuit University. She received PhD degree in 2009, Minia University, Egypt. she obtained the position of professor at Minia University. She has published more than 70 research articles.

Ambresh S Badad*, Biju Vasudevan

Department of Dermatology, India

Rare a typical subcutaneous fungal infections

Emergence of a typical fungal infections rare opportunistic fungal infection caused by saprophytes of genera such as Fusarium, Paecilomyces, Scedosporium, Penicillium, Scopulariopsis Acremonium, and similar fungi.

Methods: We report an instance of 3 cases of atypical fungal infections first in a 50-year-old woman, known to have diabetes, who presented with multiple raised lesions on the upper back of two years' duration. Second in a 33 years old male patient and third in 36 year old male HIV+ve patient.

Conclusions: There is emergence of rare opportunistic fungal infections of Dermatological importance. we should look for these infections in immunosuppression. These patients have substantial morbidity and can be best treated with aggressive antifungal therapy.

Audience Take Away:

- Audience will be made aware about emergence of rare opportunistic fungal infections in immunosuppression like HIV, Diabetes, malignancy.
- As these patients have substantial morbidity.
- Treating physicians will be able to diagnose and best treat with aggressive antifungal therapy and reduce morbidity and mortality.

Biography

Dr. Ambresh S Badad Studied MBBS from MRMC, Kalburagi RGUHS Bangalore and did his MD from prestigious Armed Forces Medical College (AFMC), Pune in 2013.He then did DNB from NATBOARD New Delhi. presently working as Associate Professor at MRMC, Kalburagi and is the DIRECTOR of Dr Badad's Skin Eye & LASER Care Centre, KALABURAGI, KARNATAKA, INDIA. He has published more than 40 research articles in National and International journals, and has written 2 chapters and edited a book in Dermatology. He is invited speaker at various National and International conferences. He has been awarded with Raising Star Award in WCD, Milan Italy 2019, Global Education Award 2013 New Delhi India and Young Dermatologist Award 2021 Bangalore India.

Rohit Kothari
Department of Dermatology, Command Hospital Air Force, India

Clinical and cytokine profile in Type-2 reaction in leprosy in response to thalidomide : A randomized controlled trial

Background: Leprosy is a chronic granulomatous disease caused by Mycobacterium leprae (M. Lepra). Reactions may interrupt its usual chronic course. Type-2 leprosy reaction or erythema nodosum leprosum (ENL) is an acute event which is type-III hypersensitivity response and manifests clinically as tender evanescent skin-colored or erythematous nodules and systemic features. Various cytokines like TNF-alpha and IFN-gamma may be increased in ENL along with CD-64 which may be overexpressed due to massive influx of neutrophils during this reaction. Thalidomide is considered the drug of choice for type-2 lepra reaction. We tried to extrapolate these facts in the treatment of Leprosy reactions in the form of reduction of these molecules following Thalidomide use and therefore predicting response and prognosis.

Objective: To find a correlation between TNF-alpha, IFN-gamma and CD-64 expression on circulating neutrophils following Thalidomide treatment and predicting response and prognosis in cases of Type-2 lepra reaction.

Methodology: This randomized controlled trial consisted of fifty confirmed cases of type-2 leprosy reaction and fifty age, sex and area of residence matched healthy controls. It was conducted in a tertiary care hospital in Bengaluru, India. The diagnosis of leprosy was made by the presence of cardinal features in the form of pale or red skin patch with definite loss of sensation, thickened or enlarged peripheral nerves with sensory and/or motor deficit, and positive slit skin smear for M. Lepra bacillus. Type-2 reaction was diagnosed in case the leprosy patient developed tender evanescent skin-colored or red nodules with systemic symptoms and neutrophil leukocytosis. Blood samples and skin biopsy were taken at baseline and on 14th day after Thalidomide therapy in the treated patients and subjected to histopathology, immunohistochemistry, immunofluorescence, Reverse Transcriptase-Polymerase Chain reaction (RT-PCR Quantitative) and flow cytometry. All patients with ENL responded well to Thalidomide and the lesions resolved within 1-2 weeks.

Results: TNF-alpha and IFN-gamma are increased in almost all cases of type-2 reaction. CD-64 expression is also upregulated in type-2 reaction and down regulated in patients who received Thalidomide and showed favorable clinical response. There was significant correlation of increased CD-64 expression with the severity of reaction.

Conclusion: TNF-alpha and IFN-gamma are sensitive markers of type-2 reaction, however, did not correlate with treatment response to Thalidomide and hence may be used as screening biomarkers for reaction. CD-64 expression on neutrophils may be an early biomarker for diagnosis, prognosis and clinical response to Thalidomide and it is not time-consuming as well. We also propose that anti-CD 64 antibodies may become one of the treatment modalities in type-2 reactions in future where Thalidomide is contraindicated or is less favored especially in childhood leprosy cases <12 years where safety data of Thalidomide is limited and in pregnant females.

Audience Take Away:

- TNF-alpha and IFN-gamma are sensitive markers of type-2 reaction and may be used as screening biomarkers for reaction.
- CD-64 expression on neutrophils may be an early biomarker for diagnosis, prognosis and clinical response to Thalidomide.
- Early diagnosis of type-2 reaction can significantly reduce the morbidity in leprosy cases.
- The response to treatment as assessed by these investigations may help in deciding the correct treatment and timely change if a patient is not responding.
- This research may be further be expanded by using various other cytokines/chemokines in type-1/2 reaction, healthy contacts or other scenarios for early diagnosis and prognosis in leprosy.

Biography

Dr. Rohit studied MBBS and MD Dermatology at Armed Forces Medical College, India and graduated as MD in 2021. He then joined the department of Dermatology, Command Hospital Air Force Bengaluru as Senior Resident. He has won several national and state level quizzes during his residency. He has been the quiz master of various national level quizzes as well and has published more 16 research articles in PubMed indexed journals including high impact one's. He has presented at various national level forums and has many upcoming national and international level presentations as well.

Mohamad-Said Almasri*, Rashed Alqaisi, Mohammad Al-Shagahin, Waqar Al-Kubaisy, Ahmad Aljarajreh, Hani Al-Shagahin

Faculty of Medicine, Mutah university, Jordan

Risk factors and characterization of post COVID-19 syndrome, in Jordan

Controversial information about the sequelae of COVID-19 after recovery or post-COVID-19 syndrome(PCS). Whereas considerable studies have been done on COVID-19, proportionally, scarcity of literature addressing the PCS, particularly the risk factors causing this syndrome. Determining the prevalence, most common manifestations of PCS, and the possible related risk factors is an important issue. A cross-sectional, online questionnaire-based study was conducted. This questionnaire was posted to the Association of "My experience with COVID-19" in Jordan. Socio-demographic, as well as COVID 19 illness information was collected, from 657 COVID-19 recovered patients at least three months after illness started. PCS prevalence was 71.9%, where the patient experienced, at least one PCS symptom.

Most common symptoms including dyspnoea, fatigue, taste and smell impairment, cough, and depression. Six factors were found to be significantly increasing the risk of PCS (using OR, 95% CI); female (2.06, 1.409-2.856), aging ≥30 (1.64, 1.16-2.33), DM (2.978, 1.08-8.21) hypertension, (2.22, 1.118-4.423), respiratory disease (2.33, 1.21-4.501), and neuro-psychological disturbance during illness (3.79, 2.574-5.573). Those patients showed also a significantly higher rate of post-COVID-19 syndrome than their counter groups. Therefore, females, aging ≥30, comorbidity, and neuropsychological disturbance during illness, are considered as a risk group for PCS. Thus, psychological and medical support is highly recommended during and after the episode particularly for the risk groups.

What will audience learn from my presentation?

- The COVID-19 infection management should not be only during the acute episode has to continue several months after the recovery of the patient.
- The Post COVID-19 (PCS) prevalence is high, (71.8%) in Jordan and six factors were found to be significantly increasing the risk of PCS.
- The PCS period requires not only scientific study and investigation but also needs early interventions including rehabilitation.
- We have to start steps in preparing for this unavoidable problem to improve the health care system and enhance the management of patients during the PCS period.

Biography

Mr. Mohamad Said Almasri, final year medical student at Mutah university, Jordan. He was the president of the medical club 2019-2020. He has published an article as a first author as a student and participated as an oral presenter in a regional conference.

J.A.A.S. Jayaweera* and W.W. Kumbukgolla

Department of Microbiology, Rajarata University of Sri Lanka, Sri Lanka

Clinical exposure and methicillin-resistant staphylococcus aureus (MSRA) colonization among medical students, rajarata university of Sri Lanka

Medical students who engage in clinical learning in healthcare settings can be potential methicillin-resistant *Staphylococcus aureus* (MRSA) carriers. This is a descriptive cross-sectional study having a follow-up approach. Three batches of medical students who were studying at the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka (1st, 3rd and 5th study years of MBBS course) were screened for nasal and axillary MRSA colonization. The first-year students were screened before and 6 months after clinical learning. The knowledge of the students about infection control was scored (percentage) using a questionnaire in the one week before and later one year after the hospital exposure. Data was compared using two-sample t test.

The percentage of MRSA colonization was 6.36% (7/110) and 49.57% (59/119) before clinical exposure and after 2.5 years of exposure, respectively ($p<0.012$). The percentage of correct responses obtained by the students for the questionnaire about infection control was 28% and 66.9% one week before the exposure to the hospitals and one year after the exposure to the hospitals, consecutively. MRSA carriage was significantly associated with the time duration of the clinical training of the medical students. The knowledge of students about infection control was significantly inadequate one week before the hospital exposure and they have gained the knowledge only after being exposed to the hospitals.

Audience Take Away:

- MRSA colonization among medical students is a huge problem and infection control specialists have to pay special attention to mitigate cross transmission.
- Limited studies have done to assess the MRSA colonization among medical students and to minimize the colonization frequency adherence to meticulous infection control practices have to be streamlined.
- Also clinical audits have to focus towards medical students to assess hand hygiene and other infection control practices.
- This in turn will be helpful to strengthen the infection control practices among young doctors.

Biography

Dr. J.A.A.S. Jayaweera acquired his MD in medical microbiology and MPhil in medical virology. Dr. Jayaweera has over ten years of research experience in microbiology, biochemistry, nano-biotechnology, complementary and alternative medicine, and biostatistics. He has so far published more than 30 research articles in international peer-reviewed journals. He has won several international awards, and he is serving as a reviewer for many reputed groups of journals in the Global Journal of Medical Research and BMC antimicrobials and infection control. Further, he is an honorary editor in the Annals of clinical immunology and microbiology journal and the chief editor in Asian journal of dermatological sciences.

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Five-year prevalence of hospital acquired blood stream infections in a tertiary hospital in Oman : A cross-sectional study

Background: Several reports have emerged addressing the burden and the prevention of hospital acquired bloodstream infections (HA-BSI); however, they have been largely limited to developed countries. In Arab countries, however, few studies have emerged on various aspects of HA-BSIs. To our knowledge, there have been no reports of the prevalence rate of HA-BSI among admitted patients from Oman. This study aims to explore the HA-BSI prevalence estimates over selected socio-demographic characteristics among admitted patients at a tertiary hospital in Oman over five years of follow-up. The regional variations in Oman were also examined in this study.

Methods: This hospital-based cross-sectional study reviewed reports of colonoscopies performed over 5- years of retrospective follow-up at a tertiary hospital in Oman. HA-BSI prevalence estimates were calculated over age, gender, governorate, and time of follow-up. Cumulative frequency of participants with single and mixed infections and types of causative micro-organisms of HA-BSIs were also obtained.

Results: A total of 1246 HA-BSI cases were enumerated among 139,683 admissions to SQUH during the five years of retrospective follow up, yielding an overall HA-BSI prevalence estimate of 8.9 cases per 1000 admissions (95%CI: 8.4, 9.4). Gender-specific HA-BSI prevalence among males was higher than that among females (9.3 vs. 8.5). The age-specific HA-BSI prevalence estimates started as relatively high at group aged 15 years or less (10.0), and then declined as age increased to 36 to 45 years (7.0) when it started to increase steadily with increasing age to the group aged 76 or more (9.9). Regional HA-BSI prevalence was highest among admitted patients who resided in Dhofar Governorate (11.8) while the lowest was among patients from Buraimi governorate (5.3). Over the 5-years of follow-up, there was a slow-declining reduction of HA-BSI prevalence.

Conclusion: The study provides supportive evidence for a varying slow reduction in HA-BSI prevalence over age categories and years of follow up; and depicted the variations of gender-specific CRC prevalence estimates over increasing age categories. The study calls for further reinforcement of infection prevention and control measures to reduce these rates further.

Keywords: Hospital acquired bloodstream infections, HA-BSI, Prevalence, Oman.

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Biography

Dr. Marah El-Tahir El-Beeli from Sultan Qaboos University, United Arab Emirates.

Abdullah Ali Abdullah Gafer
Ministry of public health, Yemen

Prevalence cholera during Juanary–December 2020 in Hudiedah city, Yemen

Yemen has recently faced the largest cholera outbreak in the world started ate the end of 2016. By the end of 2017 the cumulative reported cases from all governorates reached 777,229 cases with 2,134 deaths. Al Hudeidah was one of the most affected areas where 88741 (18%) cases with 244 (12%) death were reported. To study Profile of suspected cholera patients in Hodeidah city.

Method: A retrospective descriptive study was carried out by using secondary' analysis of available data collected from (DTCs), (ORCs) and other health facilities by department of epidemiological surveillance – Al Hodeidah health office.

Results: A total of 10139 suspected cholera patients were included in the study whereas the average age of study subjects was 22.7 years where standard deviation (SD) 18.8 most affected age groups were (5-14),(15-30),(<5) the predominant of the study subjects from Al Hudeidah city (81.3%) from Al-Hali. Cases starts to appear in week 1 reaches a peak in week 34 and then slowly decreases. 24 suspected cholera cases were culture positives.

Conclusion: Cholera is one of the urgent health problems in Al Hudeidah city, Cholera distribution is not gender sensitive, the most affected age group is (5-14) years, followed by (15-30) then under five. The peak of cholera suspected cases is registered in weeks 34.Confirmed cholera cases by culture are 24 from 167 specimen tested whereas 186 are positive by cholera RDT.

Recommendations: More cholera control interventions are necessary and urgent to eradicate it. More field related research must be carried out to guide control and management interventions.

Audience Take Away:

- To identify epidemiological curve of cholera cases in Hudiedah city, Yemen.
- To determine cholera laboratory investigation (RDT and culture) results.
- This study was conducted as a part of current efforts for the management of cholera in Yemen. It is also expected to contribute in a better understanding of effectiveness of health interventions, and making operational and strategic recommendations that can be used to improve the designing and implementation.

Biography

Abdullah Ali Gafer studied Epidemiology at the Al-Razi University, Yemen and graduated as MS in 2021. He then joined the center research epidemiology in Yemen.

Jiarong Zhong*[1], Douglas Dickinson[2], and Stephen Hsu[2]

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Effects of epigallocatechin-3-gallate-palmitate (EC16) on in vitro norovirus infection

Norovirus is the world-leading cause of acute gastroenteritis associated with severe symptoms and deaths. However, vaccines against norovirus are currently not available, and medications that specifically target human norovirus infection are still under development. The current study evaluated the suitability of EC16, EGCG, and LTP for virucidal formulations (based on auto-oxidation), and used a murine norovirus (MNV S99, a human norovirus surrogate) cell infection system to evaluate the virucidal activity of EC16 sanitizer formulations, and as a treatment and prevention model to examine in vitro the antiviral activity of EC16 in comparison to EGCG.

Method: Initially, formulation suitability tests were conducted to compare EGCG (epigallocatechin-3-gallate), EC16 and tea polyphenol-palmitate in alcohol solution and hand hygiene formulations. The virucidal activity of EC16 was then tested in hand sanitizer gel and hand sanitizer foam formulations using a TCID50 time-kill suspension assay. In vitro treatment and prevention tests were performed using a 1-hour incubation of EC16 or EGCG with RAW264.7 cells, either pre-infection or post-infection with MNV. Statistical analysis employed the two-tailed student t test (alpha=0.05).

Conclusion: Here we report, for the first time, that the antiviral activity of EC16 could be used in prevention and treatment of norovirus infection, pending future proof-of-concept in vitro and in vivo studies prior to human trials. In addition, the virucidal property of EC16 is suitable for use in hand hygiene and disinfectant products. It was also found that EGCG has lower antiviral activity comparing to EC16, and it is not suitable for virucidal formulations due to rapid auto-oxidation.

Audience Take Away:

- The audience will understand how the natural company can be used for infectious disease with significant side effect.
- Understand the severity of alcohol-resistant pathogenic microorganism on our public health and clinical settings.
- Know the disadvantage of current hand hygiene antiseptics, and have the knowledge on new technologies to prevent alcohol-resistant microorganism infection in the future.

Biography

Jiarong Zhong earned bachelor`s degree from Georgia State University in Atlanta, a Master of Science degree from Georgia State University. He spent over eight years conducting researches in various virus related projects, such as rabies infection, HIN1, and norovirus infection.

Sisay Shewasinad Yehualashet
Debre Berhan University, Ethiopia

Predictors of adherence to COVID-19 prevention measure among communities in North Shoa zone, ethiopia based on health belief model : A cross-sectional study

Introduction: Coronavirus disease 2019 (COVID-19) is an emerging respiratory infections and is known to cause illness ranging from the common cold to severe acute respiratory syndrome. At present, the disease has been posing a serious threat to the communities, and it is critical to know the communities' level of adherence on COVID-19 prevention measures. Thus, this study aimed to identify the predictors of adherence to COVID-19 prevention measure among communities in North Shoa zone, Ethiopia by using a health belief model.

Methods: Community-based cross-sectional study design was employed. A total of 683 respondents were interviewed using a structured and pre-tested questionnaire. The data were collected by using a mobile-based application called "Google form." Logistic regression was performed to analyze the data. Estimates were reported in adjusted odds ratios with 95% confidence intervals (CI) and a significant association was declared at p-value of less than 0.05.

Result: The overall adherence level of the community towards the recommended safety measures of COVID-19 was 44.1%. Self-efficacy (AOR = 0.23; 95% 0.14, 0.36), perceived benefits (AOR = 0.35; 95% 0.23, 0.56), perceived barriers (AOR = 3.36; 95% 2.23, 5.10), and perceived susceptibility of COVID-19 (AOR = 1.60; 95% 1.06, 2.39) were important predictors that influenced the adherence of the community to COVID-19 preventive behaviors.

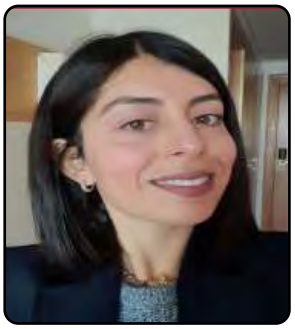
Conclusions: In this study, the overall adherence level of the community towards the recommended safety measures of COVID-19 was relatively low. It is vital to consider the communities' self-efficacy, perceived benefits, perceived barriers and perceived susceptibility of COVID-19 in order to improve the adherence of the community towards the recommended safety measures of COVID-19.

Keywords: COVID-19, Adherence to COVID-19 preventive measures, North Shoa zone.

Biography

Mr. Sisay Shewasinad Yehualashet is lecturer in the Department of nursing in Government university at Debre Birhan University, Ethiopia. He is a graduate nurse of MadaWalabu University of undergraduate and MSc on child health nursing from Addis Abaaba University and clinical nurse at wogere and Jihur health center.

He had trainings on Basic computer skills, Systemic review and Meta-analysis, R-software, SPSS, Stata 14 and Endnote. The training helped him to look on the ways enhancing problem identification, prioritization and implementations strategies to improve health services of a given community. His research interests were on Maternal and Child health, Reproductive health, Infections diseases, Non-communicable diseases, Quality of care, youth and adolescent health. He published more than 21 article papers on reputed international and national journals. He participated on different qualitative and quantitative research.



Mouna Jlidi*[1,2], Ismahen Akremi[1,2], Adel Haj Ibrahim[1], Wided Brabra[1,2], Manel Ben Ali[1,2] and Mamdouh Ben Ali[1,2]

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Probiotic properties of bacillus strains isolated from gastrointestinal tract against pathogenic vibriosis

Vibriosis is one of the major diseases leading to massive fish mortality. Probiotics may provide a potential alternative method to protect fish from pathogens and to promote a balanced environment minimizing the use of antibiotics and chemotherapy. The aims of this study were to (i) isolate and purified marine sporeformers strains from Sardine and shrimp intestine, (ii) screen for bacteria with potential probiotic properties, and (iii) carry out their *in vitro* safety assessment using a subtractive procedure. Among 108 sporeformers strains, five strains exhibited a strong antibacterial activity against Vibriosis such as *Vibrio harveyi* and *Vibrio anguillarum*. These selected strains were unaffected by high temperature and gastrointestinal conditions, produced amylase, protease and lipase activities, showed high percentages of auto-aggregation and co-aggregation with pathogens, as well as a strong adhesion to fish mucus. Partial 16S rDNA gene sequencing and MALDI-TOF MS revealed that isolates are *Bacillus amyloliquefaciens* or *Bacillus subtilis*. All of them were susceptible to antibiotics, while hydrolic enzymes and virulence factors were not detected for *B. subtilis* S17. In conclusion, based on their proprieties and their safety assessment, *B. subtilis* S17 could serve as potential probiotic candidate for aquaculture.

Audience Take Away:

- Provide an idea to select good and friendly bacteria to control diseases.
- Control or prevent fish pathogens such as Vibriosis by using a viable and friendly alternative 'Probiotics'.
- In vitro subtractive screening by several physiologic criteria and safety assessment in order to select potential probiotic used aquaculture and for fish feeding process.

Biography

Mouna Jlidi PhD student at center of biotechnology of Sfax, Tunisia. She start to work in 2017. She will graduate soon. She published articles in several field with her teal of work.

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