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Our Speakers



Voros Dionysios Medical School University of Athens Greece



Parisa Kalantari Pennsylvania State University USA



Deen Mark G. Toroy Armed Forces of the Philippines Medical Center Philippines



Thanh Nguyen Tat Woolcock Institute of Medical Research Vietnam



Delia Teresa Sponza Dokuz Eylul University Turkey



Muhammad Shahbaz Mawarid Food Company Saudi Arabia



Benjamin Pagarigan III American College of Surgeons/APEX Innovation and Consulting, USA



Chengyu Li Fudan University China

Thank You All

KEYNOTE Presentations



Dionysios C. Voros

Medical School University of Athens Greece

Necrotizing soft tissue infections

Abstract:

Necrotizing Soft Tissue Infections (NSTIs), including cellulitis, fasciitis, myositis/myonecrosis, and perineal necrosis (Fournier's gangrene), continue to pose a significant challenge in everyday clinical practice due to associated mortality from bacteremia and multiple organ failure, which ranges from 8% to 17% in recent studies (compared to over 50% in previous decades). In cases involving legs with atherosclerotic or diabetic angiopathy, the need for amputation can be as high as 26%, even in recent studies. The microbiology of NSTIs is diverse and varies according to the affected area and type of infection-such as the body, perineum, legs, or postoperative wounds-and may include Gram-negative aerobes or anaerobes, Staphylococci, Streptococci, and Clostridium, whether gas-producing or not. The clinical presentation and symptoms are also varied, often making diagnosis and evaluation challenging, particularly when deciding on the need for surgical intervention. Diagnostic methods have evolved beyond plain X-rays, which primarily reveal air from gas-producing microorganisms, to include CT scans and, in some cases, MRI. The Lrinec Scoring System encompasses a range of laboratory tests for evaluating necrotizing fasciitis. Current therapeutic protocols include: a) Broad-spectrum antibiotics (or combinations) administered intravenously immediately upon suspicion of diagnosis; b) Early aggressive intervention to remove all necrotic tissue and perform fasciotomies in cases of suspected compartment syndrome. The wound from the initial operation is usually left open for optimal drainage, facilitating reoperations (usually 2-3 debridements are needed). In cases of perineal necrosis (Fournier's gangrene), a temporary diverting colostomy can be very beneficial; c) The use of Vacuum-Assisted Closure (VAC) therapy in the open wound after the first operation and subsequent debridements is a valuable method. This aids in cleaning and promoting granulation of the wound tissue, leading to final closure and shorter hospital stays; d) Hyperbaric oxygen (HBO) therapy may be utilized, if available, following other interventions, particularly in anatomically challenging areas such as the chest wall and neck; e) The use of intravenous immunoglobulin (IVIG) remains controversial in the international medical community; f) Systemic support, nutrition, and often respiratory support in the ICU are essential for the outcomes of these patients. In our earlier presentations spanning several decades (see literature), we, along with many other authors, have highlighted the significance of timely surgical intervention and its correlation with improved patient prognosis due to increased knowledge and experience over time.

Biography

Dionysios C. Voros is a distinguished medical professional affiliated with the University of Athens and the Henry Dunant Hospital Center in Greece. With a focus on surgical interventions, Dionysios C. Voros specializes in the management of complex cases, particularly severe necrotizing soft tissue infections. His research emphasizes the critical role of early and extensive surgical intervention in improving patient outcomes in these life-threatening conditions. Through his clinical practice and academic contributions, Dionysios C. Voros aims to enhance understanding and treatment strategies for soft tissue infections, underscoring the importance of timely surgical care in critical scenarios.

ORAL PRESENTATIONS



Deen Mark G. Toroy

West Visayas State University Philippines



Clinical profile and selected viral genome sequence analysis of sars-cov-2 infected pediatric patients in a tertiary military hospital in quezon city from january 2021 – July 2023: A cross sectional study

Abstract:

Background: SARS-CoV-2 displays distinct characteristics in terms of virulence and disease severity in pediatric population. Hence, patient's clinical profile and viral genome may contribute to patient's symptoms and disease severity.

Objectives: To determine the clinical profile and to analyze the selected viral genome sequence of pediatric patients infected with SARS-CoV-2 in a Tertiary Military Hospital in Quezon City from January 2021 – July 2023.

Methods: This is a single center cross sectional study determining the SARS-CoV-2 infected pediatric patients clinical profile consisting of age, sex, residence, comorbidities, presenting symptoms, hospitalization and disease severity. Selected samples were subjected to next generation sequencing to analyze the SARS-CoV-2 genome sequence. All data were recorded with utmost confidentiality.

Results & Conclusion: From January 2021 to July 2023, a total of 630 pediatric patients who got tested for SARS-CoV-2 RT-PCR were confirmed to have SARS-CoV-2. Two hundred thirty nine (239) were included in this study. Among the study population, 61.51% were male, more than 60% were less than 4 years old and residing in Quezon City. In terms of clinical presentation, 78% had mild symptoms, 20% had radiologic findings of pneumonia, 40% presented with fever, 12% with diarrhea, and 8% with dyspnea. Ten percent (10%) of patients had concomitant seizure disorder. More than 70% were admitted to the hospital and all of the study subjects recovered from the illness. Only ten samples were subjected to next generation sequencing and all were Omicron variants. Majority of the SARS-CoV-2 virus belong to Clade 22B and 23E; and identified pangolin lineages were BA.5.2, BA.2.3.20, XBB.1.5, GJ.1.2 and FL.23.2

Biography

Deen Mark Toroy studied Biology at West Visayas State University – Philippines. He also took his degree of Medicine in same institution. He then had her Post Graduate Internship at the Philippine General Hospital – University of the Philippines. He entered the military service and currently with a rank of CAPTAIN of the Armed Forces of the Philippines. He finished his pediatric residency training at the Armed Forces of the Philippines Medical Center. He created this research in collaboration with the Armed Forces Research Institute of Medical Sciences (AFRIMS)

Muhammad Shahbaz

Mawarid Food Company Saudi Arabia



Food Safety and COVID-19: Precautionary Measures to Limit the Spread of Coronavirus at Food Service and Retail Sector

Abstract:

Coronavirus pandemic has drastically upended the daily life routines of human beings and has wide wide-ranging effects on entire sectors of society. The food sector is also susceptible and substantially harmed by the influence of intensive effects of coronavirus. To ensure food safety and limit the spread of coronavirus at food services and retail sector has become a challenge where delicate and fresh food items are served and delivered to the customers, which have passed through a series of operational steps from order taking, food receiving, preparation of food, packing, delivery to customers. At each step, there is a possibility of food handlers to touch the food surface or food directly and if food handler is not following appropriate precautionary measures e.g. hand hygiene, sanitization and disinfection, social distances, and is touching, then it can be a possible source of coronavirus spread. Since there is no evidence that food is a coronavirus transmission route but during the food operations, improper sanitization and disinfection of key touchpoints, food contact, nonfood contact, equipment and cleaning tools surfaces and close contact of food handlers with staff and customers not only can put themselves on risk but can also be a risk for customers. Food services and the retail sector should make sure proper hand hygiene, approved sanitizers and disinfectants in use, follow social distances at workstations and while interacting with the customers. Finally, the business should be vigilant to monitor the temperature of staff and incoming guests to identify if there may any sick person to avoid from further spread of coronavirus and shall report to concerned health authorities if anyone symptoms matching with COVID-19.

Biography

Muhammad Shahbaz is experienced food technologist and food safety professional with over 15 years of food sector experience particularly in food safety and quality management systems. He has expertise in a range of high care, high risk and low risk food industries in manufacturing and retail which include bakery, confectionery, meat processing, beverages, dairy, flour and rice milling, seafood, sandwiches, salads, sushi, crisps, snacks, ready meals and chocolate. Muhammad have BSC degree in Food Science and Technology and master's in food safety and Controls with Master of Business Administration as well. Muhammad has intensively worked across Pakistan and Middle East (Saudi Arabia, Dubai, and Bahrain) and have provided assistance and technical support for many food businesses that are working towards achieving GFSI certifications and have conducted third party HACCP, FSSC 22000, supplier audits, QSR customer brand standard audits. Muhammad have

vast experience of implementing and auditing of Yum brands, McDonalds, RBI and other QSR global brands. He is active member with GFSI EMEA (Europe, Middle East, and Africa) Technical Working Group, part of Food Safety Advisory Council of NSF International Michigan USA, member with IAFP (International Association of Food Protection), Dubai Food Safety Google group and is Life Member of PSFST (Pakistan Society of Food Scientist and Technologist). He is qualified and highly experienced at developing and delivering training courses in Food Safety, HACCP, VACCP & TACCP and related subjects to all levels.

Thanh Nguyen Tat

Woolcock Institute of Medical Research Vietnam



Prognostic values of serum lactate-to-bicarbonate ratio and lactate for predicting 28-day in-hospital mortality in children with dengue shock syndrome

Abstract:

This study aimed to assess the clinical utility of blood lactate-to-bicarbonate (L/B) ratio, as a prognostic factor for 28-day in-hospital mortality in children with dengue shock syndrome (DSS). This single-center retrospective study was conducted at a tertiary children hospital in southern Vietnam from 2013 to mid-2022. Prognostic models for DSS mortality were developed, using a predefined set of covariates in the first 24 hours of PICU admission. Area under the curves (AUCs), multivariable logistic and LASSO regressions, bootstrapping and calibration slope were performed. A total of 492 children with DSS were included in the analysis, and 26 (5.3%) patients died. The predictive values for DSS mortality, regarding lactate showing AUC 0.876 (95% Cl, 0.807-0.944), and that of L/B ratio 0.867 (95% Cl, 0.80-0.934) (P-values of both biomarkers < .001). The optimal cutoff point of the L/B ratio was 0.25, while that of lactate was 4.2 mmol/L. The multivariable model showed significant clinical predictors of DSS fatality including severe bleeding, cumulative amount of fluid infused and vasoactive-inotropic score (> 30) in the first 24 hours of PICU admission. Combined with the identified clinical predictors, the L/B ratio yielded higher prognostic values (OR = 8.66, 95% CI: 1.96-38.3; P < .01) than the lactate-based model (OR = 1.35, 95% CI, 1.15-1.58; P < .001). Both the L/B and lactate models showed similarly good performances. Considering the L/B ratio has a better prognostic value than lactate-based model, it is proposed as a potential prognostic biomarker in clinical use for predicting 28-day dengue-associated mortality.

Biography

Thanh Nguyen Tat, a senior clinical researcher from the Woolcock Institute of Medical Research, Vietnam. He is a Co-chief investigator in the project, "Advanced Dengue Prognosis and Treatment" in Vietnam. He have published 25 articles and served as an editorial board member of several journals.

Abdul Qadeer Khan

University of Azad Jammu & Kashmir Pakistan



Dynamical analysis of a discrete-time COVID-19 epidemic model

Abstract:

We explore local dynamics with topological classifications, bifurcation analysis and chaos control in a discrete-time COVID-19 epidemic. It is explored that for all involved parametric values, discrete-time COVID-19 epidemic model has boundary equilibrium solution, and also it has an interior equilibrium solution under definite parametric condition. We have explored the local dynamics with topological classifications about boundary and interior equilibrium solution solutions of the discrete-time COVID-19 epidemic model by linear stability theory. Further, for the discrete-time COVID-19 epidemic model, existence of periodic points and convergence rate are also investigated. It is also studied the existence of possible bifurcations about boundary and interior equilibrium solutions, and proved that there exists no flip bifurcation about boundary equilibrium solution. Moreover, it is proved that about interior equilibrium solution there exist hopf and flip bifurcations, and we have studied these bifurcations by utilizing explicit criterion. Moreover, by feedback control strategy, chaos in the discrete COVID-19 epidemic model is also explored. Finally, theoretical results are verified numerically.

Biography

Khan is currently working as Associate Professor in the Department of Mathematics, University of Azad Jammu and Kashmir, Muzaffarabad, Pakistan. Before this, he served as Assistant Professor, Lecturer and Junior Lecturer in the same Institution. He got his PhD Degree in the field of Discrete Dynamical Systems. His research mainly focuses on Mathematical Biology, Difference Equations, Discrete Dynamical Systems and Bifurcation Theory. Within his research domain, he has published number of research articles in the well-reputed Journals, and also he authored one book

Ruchi Singh Parihar

CHRIST University India



Numerical modeling the impact of climate variability on the future transmission dynamics of Vector Borne Diseases: Malaria over the coastal western and Centeral Africa

Abstract:

Worldwide, malaria remains a serious threat from vector-borne disease. According to a report from the World Health Organization (WHO), there will be 241 million cases of malaria worldwide in 2020. Malaria is still one of the leading causes of death worldwide and is a serious health issue that primarily affects tropical nations. It is an infectious disease spread by female mosquitoes of the Anopheles species and caused by parasite protozoans of the genus Plasmodium. Climate conditions and the distribution of hydrometeorological variables, in particular temperature, precipitation, and humidity, have an impact on the spatiotemporal distribution of this vector. In this work, a numerical dynamical malaria model called VECTRI is employed, which is dependent on a number of climatic and non-climatic characteristics such surface temperature, rainfall, population density, etc. The climate model's inputs are used to run the VECTRI model for the 1951–2016 baseline period as well as the 2020s, 2050s, and 2080s projection periods. To forecast the future regional malaria transmission throughout the centeral and western Africa due to climate change, we have assessed four malaria outcome parameters: temperature, rainfall, mosquito density, and entomological inoculation rate (EIR) across the model outputs. Our results show that by the end of the century, that malaria transmission (EIR) will be increased with an increase in temperature over the south western and Central part of African region.

Biography

Ruchi Singh Parihar is an Assistant Professor in the Department of Statistics and Data Science at CHRIST (Deemed to be University), Bangalore. Parihar specializes in Climate Data Analysis, Statistical/Mathematical Modeling, and Extreme Climate Impacts on Global human Health. She holds a Master's degree from Jamia Millia Islamia University, New Delhi and completed her PhD research from Indian Institute of Technology, Delhi (IIT) Delhi, focusing on Climate Change and Health using the Mathematical Modelling. Additionally, she did her Postdoctoral Research from IBS Center for Climate Physics, South Korea.Parihar's research has led to interdisciplinary publications in prestigious journals. She has earned numerous international travels grants from (Rutgers University, USA, ICTP Italy, KAUST Saudi Arabia, ETH Zurich, BNU China), for her contributions to education and research. In 2024, she received the prestigious Junior Associateship Award from ICTP, Italy. She maintains national and international collaborations and has served as a visiting researcher at esteemed institutions worldwide.

Muhammad Shahbaz

Mawarid Food Company Saudi Arabia



Strategic measures for food processing and manufacturing facilities to Combat Coronavirus Pandemic (COVID-19)

Abstract:

Coronavirus pandemic (Covid-19) leaves wide-ranging and catastrophic effects at normal ways of living, has disturbed the global food supply chain, and have a damaging impact on food security as well. The food industry and the government should come together to ensure that the food sector should remain open for consistent and unhindered production of food, so consumers have continued access to safe, healthy, and nutritious food during this pandemic. As the countries combat coronavirus pandemic, the food sector must keep gears of food processing and manufacturing moving on to avoid food shortage in the market. To continue the production and supply of safe food at the sites, the food processing and manufacturing facilities have the same level of health challenges which may pose hurdles to consistently of food production. To prevent such issues and critical situations, the food industry needs to take on specific precautions for site and employees to keep them safe and healthy. By appropriately maintaining the food safety systems and with special consideration to combat coronavirus transmission at premises and among employees can help food facilities to not disrupt the flow of manufactured food products and ingredients including food packaging material. Food facilities should strictly monitor staff health, personnel hygiene, and appropriate use of personnel protective equipment at the site entrance and during working and should adopt restrictive visitor policies including suppliers and contractors. Cleaning and disinfection of frequent and high touch points with approved chemicals and sanitizers with defined frequencies and practicing social distances and employee optimization during shifts can be helpful to prevent the spread of coronavirus. The management should limit their visits to the site and monitor the activities by CCTV cameras and food safety audits can be conducted with the use of remote auditing tools. Finally, the facilities should be vigilant to monitor the temperature of staff, employees and visitors, supplier, or contractor to identify if there may any sick person to avoid further spread of coronavirus and shall report to concerned health authorities if anyone symptoms matching with COVID.

Biography

Muhammad Shahbaz is experienced food technologist and food safety professional with over 15 years of food sector experience particularly in food safety and quality management systems. He has expertise in a range of high care, high risk and low risk food industries in manufacturing and retail which include bakery, confectionery, meat processing, beverages, dairy, flour and rice milling, seafood, sandwiches, salads, sushi, crisps, snacks, ready meals and chocolate. Muhammad have BSC degree in Food Science and Technology and master's in food safety and Controls with Master of Business Administration as well.Muhammad has intensively worked across Pakistan and Middle East (Saudi Arabia, Dubai, and Bahrain) and have provided assistance and technical support for many food businesses that are working towards achieving GFSI certifications and have conducted third party HACCP, FSSC 22000, supplier audits, QSR customer brand standard audits.Muhammad have vast experience of implementing and auditing of Yum brands, McDonalds, RBI and other QSR global brands. He is active member with GFSI EMEA (Europe, Middle East, and Africa) Technical Working Group, part of Food Safety Advisory Council of NSF International Michigan USA, member with IAFP (International Association of Food Protection), Dubai Food Safety Google group and is Life Member of PSFST (Pakistan Society of Food Scientist and Technologist). He is qualified and highly experienced at developing and delivering training courses in Food Safety, HACCP, VACCP & TACCP and related subjects to all levels.

Charutha R

JIPMER India



Household TB Infection and Alcohol Consumption of Index TB Cases: A comparative Cross-sectional study in Puducherry

Abstract:

Background: Tuberculosis (TB) continues to be a significant public health issue globally. Alcohol use is a known risk factor for TB, and while it can increase transmission risk, the dynamics within households may be complex due to factors like time spent at home.

Objective: To assess the proportion of TB infection among household contacts of male pulmonary TB patients with and without alcohol use in Puducherry, India.

Methods: A comparative cross-sectional study was conducted in the Puducherry district of India. The study population consisted of 227 household contacts of 106 index TB cases. The Mantoux test was employed to diagnose tuberculosis infection, with a cutoff value of 10 mm or greater. The risk factors associated with tuberculosis infection were identified using univariate and multivariate logistic regression.

Results: The proportion of TB infection was marginally lower in household contacts of TB patients with alcohol use (15.2%) than in those without alcohol use (16.4%). It is noted that index cases who consumed alcohol spent less time at home, which implies that there may be potential transmission risks beyond the household. An independent risk factor for tuberculosis infection was identified, which includes underweight, cross ventilation, and sharing a bed with TB patients.

Conclusion: The risk of TB infection among household contacts is lower in TB patients who consume alcohol. The potential for increased transmission beyond the household is underscored by the lessened time spent at home by alcohol-using index cases. Targeted intervention needed to control alcohol consumption among TB patients, so as to mitigate potential extra-household transmission.

Biography

Charutha R has completed her BDS and MPH graduation and currently pursuing PhD from JIPMER University, Pondicherry. Her area of interest is infectious disease with special interest in tuberculosis. She has published more than 12 papers in reputed journals.

Delia Teresa Sponza

Dokuz Eylul University Turkey



Effects of nanocomposites on the treatment of Infectious disease

Abstract:

Nanocomposites, formed by combining of polymer or ceramic with nanofillers (nano-sized inclusions like nanoparticles or nanofibers), possess distinct attributes attributed to their composition. Their unique physicochemical properties and interaction capabilities with microbial cells position them as a promising avenue for infectious disease treatment. The escalating prevalence of multi-drug resistant bacteria intensifies the need for alternative solutions. Traditional approaches involve antimicrobial agents like antibiotics, antivirals, and antifungals, targeting specific microbial aspects. This study presents a comprehensive overview of diverse nanocomposite types and highlights the potential of tailored matrix and antibacterial agent selection within nanocomposites to enhance treatment efficacy and decrease antibiotic resistance risks. Challenges such as toxicity, safety, and scalability in clinical applications are also acknowledged. Ultimately, the convergence of nanotechnology and infectious disease research offers the prospect of enhanced therapeutic strategies, envisioning a future wherein advanced materials revolutionize the landscape of medical treatment.

Biography

Delia Teresa Sponza is currently working as a professor at Dokuz Eylül University, Department of Environmental Engineering. Scientific study topics are; Environmental engineering microbiology, Environmental engineering ecology, Treatment of fluidized bed and activated sludge systems, Nutrient removal, Activated sludge microbiology, Environmental health, Industrial toxicity and toxicity studies, The effect of heavy metals on microorganisms, Treatment of toxic compounds by anaerobic / aerobic sequential processes, Anaerobic treatment of organic chemicals that cause industrial toxicity and wastewater containing them, Anaerobic treatability of wastewater containing dyes, Treatment of antibiotics with anaerobic and aerobic sequential systems, Anaerobic and aerobic treatment of polyaromatic compounds with bio-surfactants in anaerobic and aerobic environments, Treatment of petrochemical, Textile and olive processing industry wastewater by sonication, Treatment of olive processing industry wastewater with nanoparticles and the toxicity of nanoparticles. She has many international publications with an H index of 42 and 6000 citations.

Parisa Kalantari

Pennsylvania State University USA



NLRP3 and AIM2 Inflammasomes exacerbate the pathogenic Th17 cell response to eggs of the helminth schistosoma mansoni

Abstract:

Infection with the helminth Schistosoma mansoni can cause exacerbated morbidity and mortality via a pathogenic host CD4 T cell-mediated immune response directed against parasite egg antigens, with T helper (Th) 17 cells playing a major role in the development of severe granulomatous hepatic immunopathology. The role of inflammasomes in intensifying disease has been reported; however, neither the types of caspases and inflammasomes involved, nor their impact on the Th17 response are known. Here we show that enhanced egg-induced IL-1ß secretion and pyroptotic cell death required both caspase-1 and caspase-8 as well as NLRP3 and AIM2 inflammasome activation. Schistosome genomic DNA activated AIM2, whereas reactive oxygen species, potassium efflux and cathepsin B, were the major activators of NLRP3. NLRP3 and AIM2 deficiency led to a significant reduction in pathogenic Th17 responses, suggesting their crucial and non-redundant role in promoting inflammation. Additionally, we show that NLRP3- and AIM2-induced IL-1β suppressed IL-4 and protective Type I IFN (IFN-I) production, which further enhanced inflammation. IFN-I signaling also curbed inflammasomemediated IL-1ß production suggesting that these two antagonistic pathways shape the severity of disease. Lastly, Gasdermin D (Gsdmd) deficiency resulted in a marked decrease in egg-induced granulomatous inflammation. Our findings establish NLRP3/AIM2-Gsdmd axis as a central inducer of pathogenic Th17 responses which is counteracted by IFN-I pathway in schistosomiasis.

Biography

Parisa Kalantari is an Assistant Professor in the Department of Veterinary and Biomedical Sciences at Pennsylvania State University. She obtained her PhD in Pathobiology in the Center for Molecular Immunology and Infectious Disease at Pennsylvania State University. Her postdoctoral work with Drs. Douglas Golenbock and Katherine Fitzgerald at the University of Massachusetts Chan Medical School, focused on studying the complex innate immune response to infection with Plasmodium parasites. This work contributed significantly to our understanding of how malaria products induce immune responses, and which host receptors recognize these molecules. As a Research Assistant Professor at the Tufts University School of Medicine, she applied her expertise in innate immunity toward a better understanding of the molecular pathways that restrain severe immunopathology in schistosomiasis. The Kalantari Lab continues to study mechanisms that regulate parasite egg-induced hepatic granulomatous inflammation in murine infection with the species Schistosoma mansoni, focusing on host receptors and signaling pathways that modulate inflammation. Her lab is focused on: 1) Immune pathways involving STING and autophagy in the restraining immunopathology in schistosomiasis, and 2) Role of inflammasomes in inducing schistosomiasis with an emphasis on Th17 cellular response to infection. Dr. Kalantari is currently funded by an NIH R01 grant.

Jayeshkumar Kanai

Surat Municipal Institute of Medical Education and Research, India

Unveiling Hidden Cranial Pathologies in Sudden Collapse and Chronic Headache: A Case-Based Autopsy Analysis

Abstract:

Intracranial neoplasms and plasma cell malignancies often present with nonspecific symptoms, leading to delayed diagnosis and unexpected clinical outcomes. This presentation explores two distinct cases—one involving an incidental meningioma discovered during autopsy in a patient with chronic headaches, and another of extramedullary multiple myeloma (EMM) with central nervous system (CNS) involvement, manifesting as a sudden pathological fracture followed by fatal progression. The first case involves a 25-year-old female who presented with prolonged fever due to Plasmodium vivax malaria and later succumbed to septicemia and pulmonary edema. Autopsy revealed a previously undiagnosed right temporal meningioma, raising concerns about the overlooked role of intracranial tumors in chronic headaches. The absence of neuroimaging in symptomatic individuals underscores the need for proactive neurological assessments in patients with persistent headaches. The second case details a 35-year-old male with HIV, presenting with progressive neurological deficits and pathological fractures. Imaging detected multiple osteolytic cranial lesions, suggestive of neoplastic infiltration. Despite aggressive supportive care, the patient deteriorated rapidly. Autopsy findings confirmed CNS EMM, characterized by extensive lytic skull lesions and dura-adherent soft tissue masses causing significant brain compression. The case emphasizes the diagnostic challenges and critical need for early detection strategies in multiple myeloma patients at risk for extramedullary progression. Both cases highlight the practical implications of incidental neoplasms and hematological malignancies, emphasizing the role of autopsy in uncovering silent pathologies and guiding clinical decision-making. This analysis advocates for enhanced screening protocols for headache-associated tumors and early orthopedic and neurological interventions in plasma cell malignancies to improve patient outcomes.

Biography

Jayeshkumar Kanani has over 14 years of experience including 8 years of experience in the field of forensic medicine and Toxicology. Appointed in 2016 as an autopsy medical officer, he has conducted over 4,000 autopsies, providing invaluable medico-legal expertise in death investigations. His expertise extends to histopathological studies, scientific writing, court testimonies, and mentoring students in forensic medicine. Dr. Kanani has published eight peer-reviewed papers in international journals such as Elsevier, BMC, and SpringerNature, with seven as the first author. He has demonstrated exceptional skill in managing the publication process, and successfully publishing articles with tight deadlines. His research interests include general medicine, forensic medicine, Toxicology, Surgery, Cardiology, Pathology, Oncology, and Neurology. He is passionate about contributing to the academic and professional community and welcomes opportunities to collaborate on research and editorial endeavours.

Benjamin Pagarigan III

American College of Surgeons/APEX Innovation and Consulting, USA

Effectiveness of enhaced barrier precaution to prevent recurrence of clostridium difficile in nursing home patients

Abstract:

Background: On May 2024, CDC implemented an approach to decrease the Transmission of Multi drug resistant organism. They created Enhanced Barrier precaution (EBP). The EBP includes all nursing home residents with Indwelling Medical Device and Chronic wounds are at risk for Multi drug resistant organism; Therefore, Healthcare provider will need to use gowns and gloves when doing high contact procedures or activities (e.q., bathing, dressing, cleaning wounds and indwelling medical devices). Clostridium Difficile is not part of the EBP criteria not unless it is a Multi drug resistant organism. We aimed to determine if EBP will decrease the recurrence of Clostridium Difficile in patients with a history of the disease.

Methods: All residents that had a past history of Clostridium Difficile will be enrolled in the Enhanced Barrier precautions from May 01, 2024, to October 31, 2024. The patient will be monitored for the duration of the study and EBP audit will be done regularly. Using electronic chart review, we recorded recurrence based on laboratory examinations done in the facility or done in the hospital for a particular patient.

Results: A total of 11 patients were included in the study; of those, only 1 had recurrence (9%).

Conclusion: The study shows that Enhanced barrier precaution can be used to a patient with a high risk of getting Clostridium Difficile in nursing homes. We identified key gaps in the study including the need for greater population and better monitoring of staff for the EBP audits.

Biography

Benjamin Pagarigan III has completed his Doctor of Medicine at the age of 24 years from Far Eastern University Dr. Nicanor Reyes Medical Foundation and General Surgery Residency from Southern Philippines Medical Center. He also did his Masteral in Healthcare Administration and became a fellow of the Philippine Colleges of Hospital Administrators. He went to the United States of America to pursue further studies in Infection Control and prevention and became an Associate Fellow in the American College of Surgeons. Both Certified in Infection Control and Long-term care Infection control and prevention by the Certification board in Infection Control. A member of the Association of Professionals in infection Control. He is the director of Optalis Healthcare for Infection Control and the senior vice president for clinical service of APEX Innovation and consulting, a premier short term and long-term care service organization.



Dysregulation of IncRNA in Helicobacter Pylori - Infected gastric cancer cells

Abstract:

Iran

Helicobacter pylori (H. pylori) infection is the most common cause of gastric cancer (GC). This microorganism is genetically diverse; GC is caused by several genetic deregulation in addition to environmental factors and bacterial virulence factors. LncRNAs (long non-coding RNAs) are significant biological macromolecules in GC, have specific functions in disease and could be therapeutic targets. Altered IncRNAs can lead to the abnormal expression of adjacent protein-coding genes, which may be important in cancer development. Their mechanisms have not been well understood, so we are going to investigate risk of GC in population with both high IncRNA and H. pylori infection.

Biography

Leila Yousefi is a researcher in Drug Applied Research center, Tabriz University Medical Science. She has completed PhD in medical bacteriology from Tabriz University of Medical Science, Iran. He has published 15 papers in reputed journals and has teaching experience in Islamic Azad University in Iran.

Gunvanti Rathod

AIIMS India



Diagnostic challenges in Breast Pathology-A case-based discussion

Abstract:

The incidence of breast cancer is rapidly increasing at present and it will strike 1 in 9 women over a lifetime. Nowadays younger patients are being diagnosed with breast cancer. The importance of early diagnosis cannot be underscored as management and survival is markedly improved with early stage of breast cancer. The most common malignant breast lesion in our day to day practice is infiltrating duct carcinoma, not otherwise specified (IDC-NOS) followed by invasive lobular carcinoma. Apart from these, there are more than dozen variants of breast cancer and few rare lesion in benign and intermediate category which are less common but it is important to know their main characteristics to make the best treatment choice and better prognosis. It is need of hour to discuss important neoplastic and non neoplastic breast lesions that are less known and less appreciated. The diagnosis of breast lesions are done by various laboratory diagnostic procedures viz. FNAC (Fine Needle Aspiration Cytology), Core needle biopsy examination and Histopathological examination of whole specimen. FNAC can be performed on any clinically palpable lumps or roentgenographically detected non-palpable lesions of the breast. The major limitations of this method is that definite diagnosis of some lesions can be difficult to make on the basis of cytology. Core biopsy is useful in the evaluation of lesions likely to be low histopathological grade and in those presenting as architectural distortions, for which FNA cytology may fail to prove a diagnosis. Core biopsy is definitely a robust and reliable diagnostic modality, but carries with it disadvantages in terms of a longer turn-around due to the tissue processing time, patient discomfort during the procedure and higher complication rate. Histopathological examination of whole specimen of breast is the gold standard modality for final diagnosis of any breast lesion. We are going to discuss role of various diagnostic modalities in rare neoplastic and non neoplastic lesions of breast.

Biography

I am working as Additional Professor in Pathology and Lab Medicine Department at AIIMS, Bibinagar, Hyderabad, Telangana, India. AIIMS is an Institute of National Importance under the Ministry of Health and Family Welfare, Govt. of India. I have completed MBBS from Smt. NHL Municipal Medical College, Ahmedabad in year 2007 and completed MD (Pathology) form BJ Medical College, Ahmedabad in year 2010. I have completed FAIMER fellowship and Advance Course in Medical Education. I have administration experience of Associate Dean (Academics) for almost 4 years. I have post MD teaching experience of more than 14 years of both undergraduate and postgraduate teaching. I have published more than 100 articles in various nationally and internationally indexed journals in field of Pathology and Medical education with total citations of 1180, h index of 19 and i10 index of 38 as on today. I am also working as editorial board member in various journals and associated with various Professional bodies like World Association of Medical Editors, Indian Association of Pathology and Microbiology, Indian Medical Association, Indian Association of Cytology, Indian Society for Precision Medicine and Molecular Medicine, Association of Cytologists and Histopathologists, Molecular Pathology Association of India, etc. I have authored more than 10 books/ chapters.

Chengyu Li

Fudan University China

Using the Influenza Patient-reported Outcome (FLU-PRO) diary to evaluate the real-world effectiveness, satisfaction and preference of antiviral treatments in outpatients aged 5-14 years in China: An observational prospective cohort study

Abstract:

Currently, real-world studies on children with influenza in China are mainly based on retrospective clinical data analysis, and lack prospective designs from the patient's perspective to evaluate the self-reported outcomes and real-world experiences. In this real-world prospective cohort study, we enrolled 5-14 years old of influenza pediatric outpatients with administration of antivirals by physicians during the influenza season from December 2024 to March 2025, in the Children's Hospital of Henan Province. Follow-ups was conducted using telephone visit and Influenza Patient-reported Outcome (FLU-PRO) diary for patients. The primary clinical outcomes were the FLU-PRO scores to assess influenza symptoms duration and severity. Secondary clinical outcomes included health-related quality of life (HRQoL) by EQ-5D-Y-3L, patients and their family's satisfaction and preference. Among 208 pediatric influenza patients (120 oseltamivir (OST); 88 baloxavir marboxil (BXM)), BXM demonstrated better taste acceptability (26.14% highest satisfaction vs. oseltamivir's 17.5% slightly/5.83% strongly dislike; p=0.0019) and superior preference (unwilling to reuse for children: 3.41% vs. 16.67%, p=0.0238; for parents: 2.27% vs. 10.83%, p=0.0116). OST granule had lower adherence (12.5% discontinuation, 27.5% due to poor palatability or digestive discomfort). The baseline Flu-PRO score was higher in the BXM group than in the OST group, but the changes in follow-up scores were similar between groups, showing a declining trend with no statistically significant differences, so as the EQ-5D-Y-3L score. Patient-reported outcomes (PROs) were comparable between the two groups, and patients' overall satisfaction and preference significantly favored BXM, indicating BXM as a favorable antiviral option based on real-world patient experience

Biography

Chengyu Li is pursuing her Master's in Epidemiology at Fudan University School of Public Health, specializing in major infectious diseases and biosecurity. Her current research focuses on the real-world effectiveness of baloxavir marboxil in pediatric outpatients and patient-reported outcome tools for influenza.

POSTER PRESENTATIONS

10 APRIL 2025

Parsa Hasanabadi

Kurdistan University of Medical Sciences Iran



Medical law; The need for medicine curriculum expansion from COVID-19 era

Abstract:

The rapid advancements in the medical field have brought about numerous challenges for doctors and medical students, particularly concerning their rights and those of their patients. It is essential to clearly define and establish the legal boundaries for these groups within the medical system and education. An expanded curriculum that incorporates national medical textbooks tailored to local cultural, religious, and judicial laws is a practical solution to address these issues. Historically, the medical profession has faced numerous complaints, notably during the COVID-19 pandemic in 2020, highlighting the need for improved legal awareness among medical practitioners. By educating medical students about their rights and those of patients, service efficiency can be improved, errors reduced, and complications minimized. This preventative educational measure would develop students' scientific reasoning abilities and familiarize them with common legal and medical errors. Effective communication skills and awareness of cognitive biases are critical, as many medical errors result from deficiencies in these areas. Supporting dual degrees like MD/JD can further benefit doctors by providing comprehensive training in both medical and legal fields, thereby enhancing healthcare outcomes and patient safety. Such an integrated curriculum promotes professionalism, trust in the judicial system, and case-based learning. Medical law education should ideally be introduced during medical students' internship periods and residency programs, as general practitioners often face the most complaints. Applying situated-learning theory through court-based learning, where law students specializing in medical law observe actual malpractice trials, has proven effective. This approach enables clinicians to distinguish between legal and illegal issues, making medical law a practical and essential subject. Enhancing the curriculum in this manner addresses a significant societal need and improves overall healthcare delivery.

Biography

Parsa Hasanabadi is an MD candidate at the Kurdistan University of Medical Sciences, where he has been excelling academically since 2020. A top student in his class, Hasanabadi achieved the 4th rank in the university's basic sciences exam and has consistently ranked among the top students in subsequent semesters.

Rosanova Maria Teresa

Hospital Juan P Garrahan Argentina



Efficacy and safety of Ceftazidime-Avibactam (CAZ/AVI) in Children: Systematic review

Abstract:

Introduction: Data on the efficacy and safety of ceftazidime-avibactam (CAZ/AVI) in children are limited. Therefore, a systematic review was conducted to address the following question: Is the CAZ/AVI combination more effective and safer than other comparator antibiotics for the treatment of severe gram-negative bacilli infections in children? Procedure: Literature searches were performed in Medline, Embase, The Cochrane Library, CINAHL, SCI-EXPANDED, and Scopus. Only randomized controlled trials involving subjects aged ≤18 years were included. Studies had to report on patients receiving empirical treatment or treatment for documented infections caused by susceptible microorganisms with CAZ/AVI or a comparator antibiotic, as well as their outcomes and adverse effects. A meta-analysis was conducted using the Der Simonian-Laird method, and heterogeneity was assessed with the I2 indicator. Results: Out of 1,673 articles identified, only two met the inclusion criteria and were subsequently reviewed in full. Both studies were primary experimental phase II trials: one focused on patients with intra-abdominal infections, and the other on patients with renal infections. The estimation of statistical heterogeneity for efficacy indicated high heterogeneity, which was attributed to the differing diagnoses (intra-abdominal infections and pyelonephritis). However, the heterogeneity was not excessive enough to preclude a meta-analysis. For the evaluation of adverse events, the I2 value was negative, indicating an absence of heterogeneity. The probability of publication bias was inevitably high due to the limited number of eligible studies. Interpretation: This systematic review concludes that it was not possible to establish the superiority of CAZ/AVI over the comparator antibiotics, meropenem for intra-abdominal infections and cefepime for pyelonephritis. Both treatments demonstrated an acceptable safety profile in children. The incidence of adverse events was comparable between groups, and none of the drug-related events were serious.

Biography

Rosanova Maria Teresa is a medical professional affiliated with Hospital Juan P. Garrahan in Argentina. With expertise in the healthcare field, she contributes to the advancement of medical practices and patient care at one of the country's leading pediatric hospitals. Her work reflects a commitment to improving the health and well-being of children through clinical practice and research.

Taanish Unhale*, Neel Satish¹

Anglia Ruskin university, UK

Can AI improve histopathology imaging for cancer diagnosis and treatment?

Abstract:

The integration of artificial intelligence (AI) into histopathology has emerged as a transformative force in disease diagnosis and treatment, particularly in oncology. This poster looks into the potential of AI to complement or replace traditional pathology practices. AI applications in histopathology include tumour detection and grading, prognosis prediction, and algorithmic analysis of demographic and clinical data (Cui & Zhang, 2021). Machine learning, especially convolutional neural networks (CNNs), has demonstrated improved sensitivity in detecting cancer metastases (Liu et al., 2017) and higher accuracy in grading systems (Chang et al., 2019). Notably, AI has outperformed pathologists in certain diagnostic metrics, such as a 28% increase in area under the curve (AUC) for cervical cancer screening (Hu et al., 2019). However, the integration of AI and pathologists results in increased diagnostic specificity and efficiency. This was evidenced when AI was combined with pathologists and resulted in enhanced diagnostic specificity by 1.6% in breast cancer mammogram screenings (Schaffter et al., 2020). Despite its advantages, AI faces challenges, including image processing limitations, storage and computational demands, and patients and practitioners do not have complete trust in the technology at its current stage. Additionally, variability in image quality and the need for robust validation hinder widespread adoption. The evidence underscores that while Al cannot currently replace pathologists, it serves as a valuable tool to enhance accuracy, reduce workloads, and enable personalized treatment approaches. Future directions highlight the integration of genomics, proteomics, and informatics with whole slide imaging to create data-rich pathomics (analysing digital pathology images to retrieve quantitative data that can be used to make a diagnosis) platforms. This progression is expected to revolutionise histopathology, making advanced diagnostic capabilities accessible to healthcare systems globally and optimise clinical workflows (Mobadersany et al., 2018). Al's successful implementation hinges on addressing technological constraints and fostering trust among healthcare providers and patients.

Biography

I am a final year medical student from Anglia Ruskin university. I got involved with this project due to my interest in artificial intelligence and its implications in medical practice, importantly its potential for improving the early recognition of cancer with emphasis on management and prognostication I have an interest in urology, this project has allowed me to deepen my knowledge on the topic, as well as providing a window into the future of pathological diagnosis within urology. I look forward to seeing the impact that artificial intelligence has on clinical practice, and to see the potential improvement on diagnosis and management of prostate cancer.

ACCEPTED PRESENTATIONS

10 APRIL 2025

Bei Wang

Regeneron Pharmaceuticals USA

Unraveling the dynamic interplay of SARS-CoV-2 neutralizing monoclonal antibodies and host immunity in hospitalized patients with COVID-19

Abstract:

Passive administration of SARS-CoV-2 neutralizing monoclonal antibodies (mAbs), such as CAS+IMD (Casirivimab + Imdevimab) antibody cocktail demonstrated beneficial effects on clinical outcomes in patients with COVID-19. However, little is known about their impact on the resolution of pathogenic inflammatory response and host immunity. We conducted an immunoprofiling study in 46 patients with longitudinal samples collected during October 2020 \sim April 2021, prior to the emergence of the Delta and Omicron variants and the use of COVID-19 vaccines. We examined the dynamic interplay of CAS+IMD with host immunity applying dimensional reduction approach on plasma proteomics and high dimensional flow cytometry data. Using an unbiased clustering method, we identified unique immunophenotypes associated with acute inflammation and disease resolution. Compared to placebo group, administration of CAS+IMD accelerated the transition from an acute inflammatory immunophenotype, to a less inflammatory or "resolving" immunophenotype, as characterized by reduced tissue injury, proinflammatory markers and restored lymphocyte/monocyte imbalance independent of baseline serostatus. Moreover, CAS+IMD did not impair the magnitude or the quality of host T cell immunity against SARS-CoV-2 spike protein. Our results indicate that administration of SARS-CoV-2 neutralizing antibodies can provide additional benefit by rapidly resolving inflammatory responses leading to a decreased requirement for systemic corticosteroids use, without impairing cellular antiviral immunity.

Biography

Bei Wang is a researcher at Regeneron Pharmaceuticals, Inc. in Tarrytown, New York. Bei Wang contributes to innovative biopharmaceutical research, focusing on developing treatments and advancing healthcare solutions.

Isra Mufadal Abdulkareem bur

University of Gadarif Sudan

A female Breast Tuberculosis: Diagnostic Challenge and Treatment Journey Amidst War and Displacement

Abstract:

Background: Tuberculosis of the breast (Mammary tuberculosis) is a rare condition that can mimic breast cancer or other benign breast diseases such as fibro adenomas. It is important to consider it in the differential diagnosis of a breast lump, especially in regions where tuberculosis is endemic such as Africa & India.

Case presentation: We report a case of a 41-year-old Sudanese female who presented with a painful lump in her right breast and enlarged lymph nodes in her armpit and cervical region. Additionally, she also had fever with night sweating, fatigue coupled with an unintentional weight loss, her labs show three figured erythrocyte sedimentation rates. Ultrasound, mammogram and biopsies confirmed the diagnosis of tuberculosis of the breast and negative for other conditions such as breast adenomas & cancers. She was put on quadruple therapy for two months and dual therapy for 4 months of anti-tuberculosis drugs, but her treatment was interrupted for three months due to war and displacement in Khartoum. She resumed treatment and showed improvement in her all symptoms and signs.

Conclusion: This case highlights the challenges of diagnosing and treating tuberculosis of the breast in a resource-limited setting. It also underscores the importance of early diagnosis and treatment, as well as the effectiveness of the fixed-dose combination of anti-tuberculosis drugs.

Biography

Isra Mufadal Abdulkareem bur is Specialist of Respiratory Medicine, MD. SMSB – SMC MBBS, University of Gadarif – Faculty of Medicine & Health Sciences, Sudan

Fatemeh Ahmadvand

University of Genova Department of Pharmacology and Experimental Medicine, Italy

Chronic viral infections and Alzheimer's disease: exploring potential causal relationships and coincidental connections

Abstract:

Although neurological illnesses are the second most common cause of mortality globally, little is known about their etiology. New studies have started to connect viral infections to the emergence of these conditions; infections can cause immunological responses that propel the disease along or show up as neurological symptoms. The part that microbial infections play in initiating degenerative noninflammatory processes which are impacted by hereditary factors—is especially fascinating. These infections have the potential to cause inflammation in the central nervous system (CNS), which includes both the inflow of immune cells from outside the CNS and the activation of the brain's own immune cells. The purpose of this study is to investigate the evidence linking viral infections to neurological disorders such as Alzheimer's disease

Biography

Fatemeh Ahmadvand completed her undergraduate degree in Cell and Molecular Biology at Azad University, Iran, in 2018. After working in biotechnology and research for three years, she pursued a Master's in Medical Pharmaceutical.Biotechnology at the University of Genoa. Her first publication is out, and others are under processing

Tarek Kamal Motawi

Cairo University Egypt

Potential serum biomarkers for early detection of diabetic nephropathy

Abstract:

Aim: Diabetic nephropathy (DN) is considered as one of the diabetic complications affectingup to 40% of patients with type 1 or type 2 diabetes. In clinical practice, the frequentlyused markers of renal disease and progression are serum creatinine, estimated glomerular filtration rate (eGFR) and albuminuria. The aim of this study is to determine new biomarkers in human serum which are promising for early detection of DN.

Methods: This study included 50 patients with type 2 diabetes mellitus (T2DM) and 25 clinically healthy individuals. The patients were divided into two groups; group I included 25 T2DM patients with normoalbuminuria, and group II consisted of 25 T2DM patients with microalbuminuria. In all groups, neutrophil gelatinase-associated lipocalin (NGAL), b-trace protein (bTP) and microRNA- 130b (miR-130b) were estimated.

Results: The serum levels of NGAL and bTP were significantly elevated in T2DM patients with microalbuminuria (group II) compared with T2DM patients with normoalbuminuria (group I) and control subjects but there was no significant difference between group I and control subjects. Serum miR-130b level was significantly decreased in patients with T2DM (groups I and II) compared with healthy control subjects, with a higher decrease in their levels in group II compared with group I.

Conclusion: Our results suggest that serum NGAL and bTP as tubular and glomerular markers respectively, together with serum miR-130b may be independent and reliable biomarkers for early detection of DN in patients with T2DM

Biography

Tarek Kamal Motawi is a distinguished professor in the Biochemistry Department at the Faculty of Pharmacy, Cairo University, Egypt. Based at Kasr Al Ainy, St. Cairo 11562, he has contributed extensively to biochemical research, focusing on pharmaceutical and medical applications. His work encompasses molecular biology, drug development, and disease biomarkers. With numerous publications in high-impact journals, he is recognized for his dedication to advancing biochemical sciences in Egypt and beyond.

Bo Wu

Chongqing Public Health Medical Center China

Predictive value of mycobacterium tuberculosis antigen-based skin test for active tuberculosis: a diagnostic accuracy study

Abstract:

One of the keys to controlling Tuberculosis (TB) epidemic is accurate diagnosis. The immunodiagnostic methods in the bacteriologically negative TB usually lack specificity. In WHO consolidated guidelines on TB diagnosis, studies to assess the predictive value for active TB compared with current TB infection tests was recommended as one of the priorities. The objective of this study was to evaluate the predictive value of C-TST for active TB which was a new Mycobacterium tuberculosis antigen-based skin test recommended by WHO. This was a diagnostic accuracy study in a real-world setting, which was conducted among suspected TB cases between January 2022 and July 2024 in Chongging, China. We evaluated the C-TST predictive value above a certain cut-off point in suspected TB cases, and compared it with TST using the positive predictive value (PPV). There were 1553 suspected TB participants, and 1155 (74.4%) were excluded for various reasons, leaving 393 (25.3%) participants with TST or C-TST result. When using the third quartile of C-TST (34.3 millimeter) as the cut-off point in active TB group, the PPV of C-TST for active TB was 74.5% (95%CI, 63.8% to 85%) . When using the third quartile of TST (18 millimeter) as the cut-off point in active TB group, the PPV of TST for active TB was 54.5% (95%Cl, 35% to 73.7%). The PPV of C-TST for active TB diagnosis was significantly larger than that of TST (Z=1.65, P=0.496). C-TST may have the potential to predict active TB under specific conditions.

Biography

Bo Wu is a Physician with 17 years of experience in tuberculosis treatment in Chongqing Public Health Medical Center, who has published 28 papers and has been serving as a standing committee member of Youth Branch of Chinese Antituberculosis Association and council member of Chongqing Antituberculosis Association.

Mohamad Bassam Said

Farah Association for Child with Kidney Disease in Syria Syria

Spectrum of steroid-resistant and congenital nephrotic syndrome in Children, the PodoNet registry cohort

Abstract:

Background and objectives: Steroid-resistant nephrotic syndrome (SRNS) is a rare kidney disease involving either immune-mediated or genetic alterations of podocyte structure and function. The rare nature, heterogeneity, and slow evolution of the disorder are major obstacles to systematic genotype-phenotype, intervention, and outcome studies, hampering the development of evidence-based diagnostic and therapeutic concepts. To overcome these limitations, the PodoNet Consortium has created an international registry for congenital nephrotic syndrome (CNS) and childhood-onset SRNS. Methods: Since Aug. of 2009 to Oct. 2021, clinical, biochemical, genetic, and histopathologic information was collected both retrospectively and prospectively from 2671 patients with childhood-onset (Age ≤20years old) SRNS, CNS, or persistent sub-nephrotic proteinuria of likely genetic origin at 81 centers in 32 countries through an online portal. Results: SRNS manifested in the first 5 years of life in 64% of the patients. CNS accounted for 6% of all patients. Extrarenal abnormalities were reported in 17% of patients. The most common histopathologic diagnoses were FSGS (56%), minimal change nephropathy (21%), and mesangioproliferative GN (12%). Mutation screening was performed in 1174 patients, and a genetic disease cause was identified in 23.6% of the screened patients. Among 14 genes with reported mutations, abnormalities in NPHS2 (n=138), WT1 (n=48), and NPHS1 (n=41) were most commonly identified. The proportion of patients with a genetic disease cause decreased with increasing manifestation age: from 66% in CNS to 15%–16% in schoolchildren and adolescents. Among various intensified immunosuppressive therapy protocols, calcineurin inhibitors and rituximab yielded consistently high response rates, with 40%-45% of patients achieving complete remission. Confirmation of a genetic diagnosis but not the histopathologic disease type was strongly predictive of intensified immunosuppressive therapy responsiveness. Post-transplant disease recurrence was noted in 25.8% of patients without compared with 4.5% (n=4) of patients with a genetic diagnosis. Conclusions: The PodoNet cohort may serve as a source of reference for future clinical and genetic research in this rare but significant kidney disease.

Biography

Mohamad Bassam Said is a dedicated humanitarian and medical professional leading the Farah Association for Children with Kidney Disease in Syria, advocating for better healthcare and support for affected children.

Obiajulu Hans Iwenofu

The Ohio State University Wexner Medical Center USA

Desmin is Frequently Expressed in Sporadic Desmoid-Type Fibromatosis, Regardless of Anatomic Site and CTNNB1 (Beta-Catenin) Gene Mutation Status.

Abstract:

Desmoid fibromatosis tumors (DFs) are rare myofibroblastic proliferations notorious for local recurrence potential but lack of metastatic potential. Historically, literature has suggested that desmin expression is negative/infrequent in DFs. Prompted by recent observations, we conducted a study of desmin immunoreactivity in a cohort of molecularly confirmed cases of sporadic DFs to determine the frequency of desmin expression and any potential associations with the tumor's anatomical location and CTNNB1 mutation status. 52 cases of DFs retrieved from surgical pathology archives, including 22 extra-abdominal DFs, 18 intra-abdominal/mesenteric DFs, and 11 abdominal DFs. M:F ratio was 1:1. Immunohistochemical staining, and the status of beta-catenin (CTNNB1) mutations were reviewed. A blinded assessment of desmin expression was conducted, with semi-quantitative scoring based on intensity (0, negative; 1, mild; 2, moderate; 3, strong) and percentage of staining (<25%, 25-<50%, 50-<75%, >75%). Correlative statistical analysis was performed. Desmin expression was seen in 41 out of 52 cases (78.8%). The expression ranged from moderate to strong positivity. 9 cases (17%), strong; 24 cases (46%), moderate; 8 cases (15%), moderate. 11 cases (21%) were negative across different types of DFs, including abdominal (n=3), intra-abdominal/mesenteric (n=2), and extra-abdominal (n=6). CTNNB1 mutation status revealed T41A (n=26) and S45F (n=26). There were no statistically significant differences in desmin reactivity based on CTNNB1 mutation or anatomical site of the tumor. We report an unexpectedly frequent expression of desmin in DFs, not previously reported in literature in different types of desmoid fibromatosis regardless of CTNNB1 mutation and tumor location. The prognostic implications remain to be determined and warrant further investigation.

Biography

O. Hans Iwenofu is an anatomic pathologist with subspecialty interest in soft tissue and bone pathology and currently serves as the chief of the soft tissue and bone pathology at the Ohio State University Medical Center. He has authored/coauthored more than 100 peer reviewed papers, mostly focused on diseases of bone and soft tissue. His clinical and research interests are focused on clinical diagnostics of soft tissue and bone tumors, biomarker discovery, molecular underpinnings of sarcomagenesis and translational studies in soft tissue and bone tumors.

Xiaofeng Liu

Peking University Cancer Hospital & Institute China

ERdj2 promotes hepatocellular carcinoma metastasis

Abstract:

Tumor cells display augmented capability to keep endoplasmic reticulum (ER) homeostasis under microenvironmental stimuli. Metabolic reprogramming is a well-known hallmark for tumor cells to provide specific adaptive traits to the microenvironmental alterations. However, it's unknown how tumor cells orchestrate metabolic reprogramming and tumor progression to keep ER homeostasis. We identified ERdj2 as a new regulator of HCC cell metastasis. IHC staining revealed that high expression of ERdj2 predicted unfavorable prognosis of HCC patients and HCC metastasis. Mechanistically, the phosphorylation of ERdj2 at T537 by IRE1a pathway contributed to ERdj2 activation. Then, the stability of ACLY was upregulated by ERdj2 to increase the supply of acetyl-CoA and lipid biosynthesis, which are beneficial for improving ER capacity. Meanwhile, ERdj2 also entered nucleus for increasing nuclear acetyl-CoA production to upregulate unfolded protein response targets to improve ER homeostasis. Importantly, ERdj2 coordinated with ACLY to epigenetically modulate expression of Snail1 in the nucleus. Consequently, ERdj2 promoted HCC cell metastasis and these effects were reversed by ACLY inhibition.

Biography

Xiaofeng Liu studied at Peking University and graduated as Ph.D. in 2017. He then joined the research group of Prof. Xing at Peking University Cancer Hospital & Institute. After two-year postdoctoral fellowship, he obtained the position of an Associate Professor at PUCHI. The research in his laboratory is aimed at developing the potential targets and applying them to improve strategy for treating HCC. They employ diverse methods including CRISPR/Cas9-mediated genome editing, High-throughput sequencing, proteomics, and traditional biochemical methods. He has published more than 20 research articles in SCI (E) journals in recent years.

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