JOINT EVENT

10th Euro-Global Conference on

Infectious Diseases

&

5th International Conference on

Histopathology & Cytopathology

September 27-29, 2018 Rome, Italy

Scientific Tracks & Abstracts

Day 1

SESSIONS

Viral Infectious Diseases | Bacterial Infectious Diseases | Infection, Immunity and Inflammation | Tropical Infectious Diseases | Histopathology | General Cytopathology & Immunocyto Chemistry | Clinical & Molecular Cytopathology

Chair: **Huseyin Kayadibi,** Hitit University, Turkey

SESSION INTRODUCTION

Title: **Plasmodium falciparum treated with artemisinin-based combined therapy exhibits enhanced mutation, heightened cortisol and TNF-α induction**
Anthony A Azenabor, University of Wisconsin, USA

Title: **Hepatic fibrosis in schistosomiasis, a new treatment**
Fernanda de Freitas Anibal, Federal University of São Carlos, Brazil

Title: **Metal-ligand homeostasis of essential metals (Zn, Cu, Fe) in epidermis: Probable norm criteria**
V I Petukhov, Vladimir State University, Russia

Title: **A case report on *Listeria monocytogenes* Meningoencephalitis/Cerebritis, acute disseminated encephalomyelitis, and *cytomegalovirus* bacteremia in an immunocompromised patient on steroid therapy**
Roberto Salvino, Asian Hospital and Medical Center, Philippines

Title: **A rare case report – Adenoid cystic carcinoma presenting as a vulval nodule**
Nalini AR, Sridevi Institute of Medical Sciences & Research Hospital, India

Anthony A Azenabor et al., J Infec Dis Treat 2018, Volume 4
DOI: 10.21767/2472-1093-C1-002

Plasmodium falciparum treated with artemisinin-based combined therapy exhibits enhanced mutation, heightened cortisol and TNF-α induction

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The artemisinin-based combined therapy (ACT) post-treatment illness in Plasmodium falciparum-endemic areas is characterized by vague malaria-like symptoms. The roles of treatment modality, persistence of parasites and host proinflammatory response in disease course are unknown. We investigated the hypothesis that ACT post-treatment syndrome is driven by parasite genetic polymorphisms and proinflammatory response to persisting mutant parasites. Patients were categorized as treated, untreated and malaria-negative. Malaria positive samples were analyzed for Pfcrt, Pfmdr1, K13 kelch gene polymorphisms, while all samples were evaluated for cytokines (TNF-α, IL-12p70, IL-10, TGF-β, IFN-γ) and corticosteroids (cortisol and dexamethasone) levels. The treated patients exhibited higher levels of parasitemia, TNF-α, and cortisol, increased incidence of parasite genetic mutations, and greater number of mutant alleles per patient. In addition, corticosteroid levels declined with increasing number of mutant alleles. TGF-β levels were negatively correlated with parasitemia, while IL-10 and TGF-β were negatively correlated with increasing number of mutant alleles. However, IL-12 displayed slight positive correlation and TNF-α exhibited moderate positive correlation with increasing number of mutant alleles. Since post-treatment management ultimately results in patient recovery, the high parasite gene polymorphism may act in concert with induced cortisol and TNF-α to account for ACT post-treatment syndrome. In conclusion, the ACT-meted-syndrome consists of post-treatment malaria-like-illness, enhanced genetic polymorphism in parasite that may not be effective phenotypes, and proinflammatory conditions accompanied by regulatory cytokine impairment.

Biography

Anthony A Azenabor is full professor at the University of Wisconsin-Milwaukee and an expert in Infection and Immunity, he has approached his research by explaining the impact of infection on host immune system, relying on my knowledge of Molecular Biochemistry as a major tool. His current research is aimed at providing greater insights into mechanisms involved in innate immune function during stimulation by both physiologic and infectious agents. His finding have contributed to the concept that products of activation by therapeutic interventions and the infectious agents play combined roles in the activation, wholly or in part, of host defence against pathogens and other challenges.

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Fernanda de Freitas Anibal et al., J Infec Dis Treat 2018, Volume 4
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Hepatic fibrosis in schistosomiasis, a new treatment

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Schistosomiasis is an important parasitic disease caused by Schistosoma mansoni, an intravascular trematode. Praziquantel (PZQ) is the only treatment for this. Thus, studies on new antischistosomal compounds are fundamental for disease control. In our model, Mentha piperita L. compounds – menthol and menthone (MM) – in association with acetylsalicylic acid (ASA) is demonstrated in the regulation of hepatic fibrosis caused by schistosomiasis granulomas. Six different groups of ice were infected with 80 cercariae (groups: infected and untreated, infected and MM treatment; infected and treatment MM with ASA, all treated during 14 daily after 35 day pos infection; and infected treated with Praziquantel (single dose). Parasitological, cytological and histological analyses were performed. The number of eosinophils in the peritoneal cavity lavage (LPC) significantly reduced in all treated groups. Groups treated with 30 mg/kg of MM presented a 62.80% reduction and groups treated with 50 mg/kg of MM + ASA presented a 64.21% in the number of eggs. In the liver´s histological analysis we observed that all MM treated groups expressed a unique cytological profile, with diffused cells around the granuloma. In the experimental group treated with 50 mg/kg of MM + ASA, it was possible to observe the formation of type III collagen fibers, a typical wound healing characteristic. Our data strongly suggests that both the hepatic fibrosis and the inflammatory process were regulated through the schistosomiasis granulomatous process after treatment with MM with ASA.

Biography

Fernanda de Freitas Anibal is a Associate Professor in Federal University of São Carlos and Principal Investigator at Laboratory of Inflammation and Infectious Diseases, Brazil. Currently, they are working with plants and enzymes and their effects againts schistosomiasis and leishmaniasis, about the treatment of infectious diseases. Their group studies effects of plants and their isolated fractions in order to evaluate the anti-parasitic and anti-inflammatory effects for infectious disease control. She has published more than 46 papers in scientific journals.

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V I Petukhov et al., J Infec Dis Treat 2018, Volume 4
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Metal-ligand homeostasis of essential metals (Zn, Cu, Fe) in epidermis: Probable norm criteria

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The work is dedicated to the problem of the norm in the quantitative evaluation of metal content in the epidermal cells (hair) obtained by the method of spectrometry. Authors have analyzed the hair samples for Zn, Cu, and Fe content, which were obtained from 10000 healthy subjects (5000 males and 5000 females aged 20 to 45). The definition of the norm, in the authors' opinion, is closely related to the basic positions of the theory of self-organized criticality (SC). The observed shifts in the homeostasis of essential metals are local and therefore cannot serve as a criterion of sufficient (or insufficient) metal content throughout the body. The use of hair spectrometry for determination of metal content in epidermal cells has proven to be ineffective in diagnostics of latent ID forms. However, the spectrometric analysis may be suitable for detecting criticality (synchronization) as a normative (regulatory) criterion in the operation of membrane ATPases.

Biography

V I Petukhov was graduated from the Faculty of Therapy, 1st Leningrad Medical Institute and Post-graduation from Central Institute of Post-Diploma Education of Physicians, Moscow. His Doctor's field of specialization: Therapeutist – Hematologist. He has published more than 180 scientific works, including four monographs. Presently, he is a Professor of the Vladimir State University, Vladimir, Russia, and Emeritus Professor of the Baltic International Academy, Riga, Latvia.

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A case report on Listeria *monocytogenes* meningoencephalitis/cerebritis, acute disseminated encephalomyelitis and *Cytomegalovirus* bacteremia in an immunocompromised patient on steroid therapy

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Listeria monocytogenes is an opportunistic pathogen that affects immunocompromised patients and has a very high mortality rate. Central nervous system (CNS) infection and bacteremia are the foremost clinical manifestations in susceptible hosts. Infection with multiple pathogens is not common but still possible especially in the immunocompromised. Presenting a case of a 57 year old woman admitted for sepsis from meningoencephalitis: bacterial vs. fungal vs. viral etiology and pneumonia in an immunocompromised; R/O stroke; probable glomerulonephritis; pancytopenia from sepsis and blood loss; and lower gastrointestinal bleeding. She presented three months ago with persistently elevated blood creatinine and proteinuria and was diagnosed with non-biopsy proven glomerulonephritis. Treatment with oral prednisone 60 mg total per day was given for seven weeks up to day admitted. She had hematochezia days prior and then had high grade fever and inability to speak. Physical examination was notable for pallor, negative signs of *Cytomegalovirus* (CMV) retinitis on funduscopy, Broca's aphasia, nuchal rigidity and very minimal right-sided decrease in muscle tone. Blood analyses showed low hemoglobin and platelet with normal white blood cell (WBC) count, creatinine was elevated. Electroencephalogram findings show diffuse, mild encephalopathy of non-specific etiology and plain brain CT findings of small rounded density in the left frontal lobe. Non-contrast Brain MRI revealed multiple hyper intense lesions in T2/FLAIR over the deep and sub-cortical white matter of the bilateral frontal lobes, left temporal lobe and right occipital lobe and left capsule-ganglionic region, largest measuring 2.4x2.5x3 cm seen in the periventricular left frontal lobe with minimal mass effect. Cerebrospinal fluid (CSF) analysis: colorless clear fluid with red blood cells (RBC) 990 cells/ul; WBC 650 cells/ul (62% lymphocytes, 38% neutrophils); protein 3,296 mg/L; glucose 2.4 mmol/L; cryptococcal antigen latex agglutination system, TB-PCR, acid fast stain, India ink tests were all negative; viral tests for CMV, herpes simplex, varicella zoster, Dengue and Japanese encephalitis were all negative. Empiric anti-infection treatment was started with intravenous ceftriaxone, vancomycin, metronidazole and acyclovir. Prednisone oral was continued to prevent adrenal insufficiency. CSF and blood cultures were positive for *Listeria monocytogenes* on the third hospital day. The antimicrobial regimen was shifted to ampicillin and meropenem. Marked clinical improvement was evident for 1-2 days after anti-infectives were shifted. Blood CMV PCR was positive thus ganciclovir was started. On the 12th hospital day, there was worsening of pneumonia, meropenem was shifted to cefepime and metronidazole. On the 16th hospital day, she had recurrence of Broca's aphasia. Non-contrast brain MRI showed decrease in size of previous multiple lesions but new tiny sub cortical white matter FLAIR hyper intense foci were seen in the right frontal area. Repeat CSF analyses were normal except for low IgG 4.91 g/L. Acute disseminated encephalomyelitis (ADEM) treatment with dexamethasone was effective and improved speech production after three days. Gastrointestinal bleeding from a jejunal angioectasia seen in enteroscopy was controlled with cauterization. On follow-up after a month, she is coherent and conversant, able to ambulate with support. The authors conclude that early detection and treatment of *Listeria* infection is essential for a good prognosis. Infection with multiple pathogens should be watched out for in susceptible hosts. ADEM may develop post CNS infection and should be watched for.

Biography

Roberto Salvino is a Physician at the Asian Hospital and Medical Center and is actively involved in the training of Internal Medicine Residents. He was a Former Member of The Board of Council of the International Society for Infectious Diseases during 2008-2014. He is a Diplomat of the American Board of Internal Medicine. He is a member of various medical societies such as the American College of Physicians, European AIDS Clinical Society, and American Society for Microbiology, Philippine Society for Microbiology and Philippine Society for Microbiology and Infectious Diseases. He is an executive with a diverse experience in the fields of academic, clinical medicine, pharmaceutical medicine and corporate governance.

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A rare case report - Adenoid cystic carcinoma presenting as a vulval nodule

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Adenoid cystic carcinoma of the Bartholin's gland is a rare malignant tumor of Female genital tract. Here is a report of a case of a 33-year-old woman, who presented with a swelling on the right side of vulvar region for a month. It was diagnosed as Bartholin cyst and treated with antibiotics, with not much improvement in her clinical condition. Based on examination, a solid fixed painful nodule with intact mucosa was palpated on the right side of the vulva. Histological features were compatible with adenoid cystic carcinoma. Often, such lesions are clinically misdiagnosed as cysts or inflammation. The present case was treated as Bartholins cyst initially, the possibility of malignancy should always be considered in any female with any painful nodular lesions near the Bartholin's glands in vulvar region.

Biography

Nalini A R is currently the Laboratory Director of CG Laboratory and Head of Central Lab in Shridevi Medical College, Tumkur and Associate Professor of Pathology in Department of Pathology. She has completed her Anatomical and Clinical Pathology Residency from the Prestigious Madras University in year 2010 and trained in premiere institutions like JIPMER, Pondicherry and CMC, Vellore. Her primary interest is General Surgical Pathology, Cytology with special interest in Renal Pathology. She has completed the ISN certified course in Clinical Nephropathology. She is member of State Association of Pathologists and active member of Government Pilot Project which involves Cancer Screening Surveillance Program. She also is an Honorary Consultant Pathologist in various rural health centres where they are unable to access quality diagnostic care.

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Scientific Tracks & Abstracts

Day 2

Day-2

SESSIONS

Viral Infectious Diseases | Infection, Immunity and Inflammation | Veterinary Infectious Diseases | Neurological Infectious Diseases | Pediatric Infectious Diseases | Histopathology | Gynecological And Breast Cytopathology | Stem Cell Therapy & Anatomical Pathology | Diagnostic Cytopathology

Chair: Maria Lourdes Gomez Gozali, Makati Medical Center, Philippines

SESSION INTRODUCTION

Title: Flavivirus vaccine: Molecular basis for attenuation of Live attenuated Japanese encephalitis virus vaccine SA14-14-2
Vijaya Satchidanandam, Indian Institue of Science, India

Title: Molecular testing in histologically benign spindle cell proliferations
Atif A Ahmed, Children's Mercy Hospital, USA

Title: Assessing the quality of antimalarial drugs from India using minilab: A field study
Taruna Arora, National Institute of Malaria Research, India

Title: Histopathologic evaluation and prevalence of gastric cancer in herat provnice of Afghanistan for the first time
Haroon Firozz, Herat University, Afghanistan

Title: Exploration of the impact of climate change on schistosomiasis transmission dynamics
Tayo Alex Adekiya, University of Zululand, South Africa

Vijaya Satchidanandam, J Infec Dis Treat 2018, Volume 4
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Flavivirus vaccine: Molecular basis for attenuation of live attenuated Japanese encephalitis virus vaccine SA14-14-2

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Diseases caused by flaviviruses including Zika, dengue, Japanese encephalitis, West Nile encephalitis and yellow fever have become increasingly frequent over the last couple of decades, aided by global warming and expanding geographies of the mosquito vector. The extremely safe and efficacious WHO-certified live attenuated vaccine for Japanese encephalitis virus (JEV) SA-$_{14}$-14-2 is used worldwide. We observed impressive enhancement in human CD8$^+$ T cell responses in vaccines relative to volunteers naturally exposed to circulating strains of JEV. Using cell lines that support JEV infection, we queried the molecular basis underlying the generation of enhanced CD8$^+$ T cells by the live vaccine SA-$_{14}$-14-2. Our studies revealed that the vaccine virus induced severe ER stress, viral protein was rapidly degraded in vaccine virus-infected cells and was differentially recognized by a panel of monoclonal antibodies. Sustained activation of the ER stress sensor PERK in vaccine virus-infected cells led to prolonged phosphorylation of eIF2α, activation of autophagy markers and upregulation of ER chaperones in SA-$_{14}$-14-2-infected cells. Interestingly, we also observed active dephosphorylation of eIF2α and inhibition of end stage autophagy in WT JEV infected cells. The mutated viral proteins responsible for these effects are being investigated. Our results can guide the rational design of efficacious vaccines against both flaviviruses such as Zika virus, dengue virus and West Nile virus and other pathogenic viruses belonging to other families.

Biography

Vijaya Satchidanandam has completed her PhD at Indian Institute of Science and Postdoctoral studies at National Institutes of Health, USA. She is a Professor in India's leading research institution located in Bangalore. Her laboratory investigates the "Molecular biology and immunology of flaviviral infections and *mycobacterium* tuberculosis". She has published 46 papers in reputed journals.

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Molecular testing in histologically benign spindle cell proliferations

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Histologically low grade spindle cell tumors in children are mostly benign and easily cured. Infrequency, such tumors can be infiltrative, commonly recur and are difficult to classify and surgically excise. Molecular tests including next generation seuencing have greatly faciltated the diagnosis and the treatment of highly malignant tumors but are rarely ultized in the management of undifferentiated low grade spindle proliferations. In the last three years, we have encountered two unusual cases of histologicaly benign infiltrative spindle cell proliferation in children that were studied by whole exome sequencing. The first case was that of a 20-cm abdominal mass that extended to the pelvis in a young child. The histology revealed bland spindle cell proliferation that infiltrated skeletal muscles and adipose tissue. The CD34-positive cells did not show any immunoreactivity to any other marker. Whole exome sequencing revealed *NF1* gene mutation suggesting origin from peripheral nerve sheath. The second case was that of an infant who had right a nasal tumor involving the maxillary sinus and turbinates and extending to the skull base. The recurrent tumor shows focal early osteoid formation and was negative for *ALK, CTNNB1* and *GNAS* mutations. Exome sequencing revealed RET Glu511Lys variant. In both cases, potential benefit by several tyrosine kinase inhibitors was revealed. In conclusion, molecular sequencing for actionable mutations is valuable in the management of low grade infiltrative spindle cell lesions in children.

Biography

Atif A Ahmed is Professor and Director of Anatomic Pathology Division at the Department of Pathology of Children's Mercy Hospitals, Kansas City, USA. He has graduated from University of Khartoum in 1988, completed residency and fellowship training in Pathology and is certified by the American Board of Pathology. He has published more than 50 peer-reviewed articles as well as several book chapters; and is a book editor of *"Anatomic and Clinical Pathology Board Review"* and *"Gastrointestinal Stromal Tumors in Adults and Children"*. He is on the editorial board of several journals.

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Assessing the quality of antimalarial drugs from india using minilab: A field study

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Substandard and counterfeit antimalarial medicines poses a serious threat to public health. These medicines increases the mortality by decreasing efficacy; it also increases the threat of emergence of drug resistance, adverse effect from incorrect excipients/ active ingredients which may be potentially dangerous to the patients. Owing to this, a pilot study was conducted to survey quality of drugs collected from different malaria endemic areas of India. The survey was conducted in different geographical regions on the basis of malaria endemicity i.e. Uttar Pradesh (U.P.), Mizoram, Meghalaya, Gujarat, Madhya Pradesh. A mystery shopper approach was used for collection of samples. The quality of antimalarial drugs from these areas were assessed by using Global Pharma Health Fund Minilab test kit. This includes physical/visual inspection and disintegration test, thin-layer chromatography. High performance liquid chromatography was carried out for quantitative assessment of active pharmaceutical ingredient. A total of 150 antimalarial samples were collected. These samples includes 55 (Chloroqunie), 50 (Artemether Lumefantrine), 14 (Artesunate Sulphadoxine-Pyrimethamine), 31 (Primaquine). These samples were assessed by quality using GPHF minilab lab kit. In this study 98% of the tablets passed minilab disintegration, 2% consisting did not passed disintegration test. 99% of samples passed preliminary Qualitative TLC test when compared with 100% and 80% of the standards. 96% of samples passed quantitative HPLC test, 4% of samples (contained low active pharmaceutical ingredient) did not passed this test. The substandard drugs circulating in the market causes drug resistance, treatment failure and finally leads to death. Additional analysis such as post-marketing surveillance should be done so that good quality antimalarials reached to the population.

Biography

Taruna Arora has completed PhD at the age of 30 years from Uttrakhand Technical University, Dehradun and Post-doctoral studies from National Institute of Malaria Research, New Delhi, India. She has published more than 14 papers in reputed Journals. She is the member of many societies like Pharmacy Council of India (PCI), Indian Pharmacological Society (IPS), Society of Biomedical Laboratory Scientists, India (SOBLI).

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Histopathologic evaluation and prevalence of gastric cancer in Herat provnice of Afghanistan for the first time

Haroon Firooz
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Background: Gastric cancer is one of the leading causes of cancer related death worldwide. Many patients have inoperable diseases at diagnosis or have recurrent diseases after resection with curative intent. Gastric cancer is seperated anatomically into true gastric adenocarcinoms and gastro-oesophageal junction adenocarcinomas, and histologically into diffuse and intestinal types. Gastric cancer should be treated by teams of experts from different diciplines. Surgery is the only curative treatment for locally advanced diseases. Chemotherapy is usually implemented in combination with surgery. In metastatic diseases, outcomes are poor with median survival being around one year. For the first time in Herat province of Afghanistan author decided to have a researh on gastric cancers. Since there was no pathology laboraroy in the past, no data is avaible about previlance and incidince of this diseases. Author has collected the data and related possible causes of gastric cancer in my cancer diagnostic center, in order to inform the community about this dangerous diseases. Unfortunately in our country most of patients diagnose in late stages of cancer because of lack of facilities and awaraness of diagnostic methods.

Objective: To evaluate the histopathologic types of gastric cancer and related risk factors in Herat city.

Methods: This research is a descriptive study (based on existing data) or cross sectional study. The study population is consist of 152 gastric biopsies from the patients who were suffering form gastric disorders. Endoscopiaclly mucosal resection (biopsy) is taken by endoscopists and referred to Firooz pathology laboratory for diagnosis. The research data is from 01/01/2015 to 01/01/ 2017.

Materials: All tissues were excised by endoscopy as mucosal resections (biopsies). The diagnosis of the tissue samples were according histologic prepared and staind slides (H&E) after standerd histotechnology.

Results: In this study, 152 biopsies were assessed. 137 patients diagnosed gastric cancer, among them 95(69.2%) were males and 42(30.7%) females. 45.26% of cancer patients aged over 60 years old. In 71.05% of biopsies revealed intestinal type adenocarcinoma, 11.8% of patients the biopsies showed diffuse type carcinoma. Dysplasia were noted in 6.57% of biopsies. Finally 2.70% of biopsies revealed atrophic gastritis and 0.65% of cases revealed lymphoma NHL. In 49.6 % of cases the tumors had proximal location and in 50.44% of cases the tumor had distal location. Low grade adenocarcinoma were seen in 22.6% of cases, moderately differentiated were seen in 19.7% of cases and poorly differentiated were seen in 57.7% of cases. In this study 41.6% of cases revealed *Helicobacter pylori* in gastric mucosa. Patients who diagnosed gastric cancer did not use alcohol and tabacco, most used meat in their daily diet.

Conclusion: By considering this fact that gastric cancer is a dangesrous diseases specially in undeveloped countries like Afghanistan and kills many people, it is mandatory for physician to diagnose gastric cancer in onset and early stages, in order to survive patients. Acording to our study most of referring patients (57.7%) suffered from Grade III adenocarcinoma and diagnosed poorly differentiated adenocarcinoma during there first endoscopy and histopathologic examination and the mean age for gastric cancer was 57.8, therfore it is recommended for doctors to consider abdominal discomfort and gastric disorders as a serious problem and do necessary investigative methods especially in ages above 45 years with special emphasis on early diagnosis of disease inorder to redue and decrease death rates.

Biography

Haroon Firooz has completed his speciality program in field of Pathology in Goethe University Frankfurt, Germany. He is the Head of the Pathology Department in Herat Medical Faculty of Afghanistaan. He has published more than eight papers in Herat University Medical Journal.

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Exploration of the impact of climate change on schistosomiasis transmission dynamics

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Climate change has been suggested to elicit significant impact on the interactions between pathogens and their hosts. Vector-borne diseases are predominantly sensitive to climatic factors because temperature variability can alter vector development rates, transmission dynamics, as well as cause alteration in their geographical distribution. Schistosomiasis, ranked the second most widespread among neglected tropical diseases is caused by flatworms belonging to the genus *Schistosoma.* Symptoms of the parasitic infections include acute and chronic diseases, predisposition to cancer of the bladder, as well as pulmonary and portal hypertension and in extreme cases, death. This study employs a deterministic climate-based model using differential equations to investigate the impact of rainfall and temperature on the population dynamics of schistosomes in South Africa. Numerical simulations of the system were done using mathematical models to examine the effect of climate variability on the transmission dynamics of schistosomiasis. Results showed climate variability increases reproduction number of schistosomes and snails. Hence, schistosomiasis transmission was suggested to be seasonal. Snails' reproduction was found to peak during summer and at the minimum during spring and autumn. So, sensitivity analysis showed reproductive number of schistosomes is more sensitive to the reproduction rate of snails and the probability of infections. Finally, the model used suggested future opportunity for modification and refinement for effective prediction of climate variability on the transmission dynamics of schistosomiasis.

Biography

Tayo Alex Adekiya is currently pursuing his Postgraduate studies in the Department of Biochemistry at the University of Zululand. Presently, he is the Secretary General of postgraduate student's association at the university. He has recently published three papers in reputed journal.

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