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International Conference on

Infectious Diseases, Diagnostic Microbiology & Dermatologists Summit on Skin Infections

October 03-05, 2016 Vancouver, Canada

Scientific Tracks & Abstracts

(Day 1)

Day 1 October 03, 2016

Types of Infectious Diseases | Pathogens of Infectious Diseases | Mechanism and Immunology of Diseases | Diagnostic Microbiology: Applications | Therapies and Therapeutics

Session Chair
Ananda M Chakrabarty
University of Illinois College of Medicine, USA

Session Co-chair
Xi Yang
University of Manitoba, Canada

Session Introduction

Title: **Whole genome sequencing for identification of pathogens from whole blood: febrile neutropenia and beyond**
George S Watts, University of Arizona Cancer Center, USA

Title: **Management of warning system and national surveillance of *Culicoides* biting midges transmitting arboviruses on cattle farm, 2014-2015**
Yeon-Hee Kim, Animal and Plant Quarantine Agency, Republic of Korea

Title: **Correlation between antifungals susceptibility of *Cryptococcus spp.* and outcome of patients with HIV/AIDS with *Cryptococcal meningitis***
Márcia de Souza Carvalho Melhem, Adolfo Lutz Institute, Brazil

Title: **Mycobacterial Growth Inhibition by lipophilic compounds**
Falah A M Salih, Universiti Malaysia Sabah, Malaysia

George Somerset Watts, J Infect Dis Ther 2016, 4:7(Suppl)
http://dx.doi.org/10.4172/2332-0877.C1.017

Whole genome sequencing for identification of pathogens from whole blood: Febrile neutropenia and beyond

George Somerset Watts
University of Arizona Cancer Center, USA

Febrile neutropenia (FN) is a serious complication in hematopoietic stem cell transplantation (HSCT) arising from opportunistic infections of bacterial, viral and fungal origin. FN is a major cause of morbidity, mortality and healthcare resource use in HSCT patients. Empiric antibiotic therapy is started as soon as possible once FN is recognized, accompanied by blood culture to guide rational therapy. Unfortunately, the culture-positive rate is 20% in FN patients, resulting in ineffective or sub-optimal therapy in many cases. With the high incidence of FN in HSCT patients (85-95%), HSCT patients are disproportionately affected by FN morbidity and mortality (9-14%). To improve the diagnosis of FN, we have developed an approach that utilizes whole genome sequencing to identify pathogens from whole blood samples. Here we present our initial results from HSCT patient samples taken before, during and after FN episodes. In patient samples, total reads ranged between 762465 and 18 million, with non-human reads constituting 2% of total when infection was not suspected and 14% of total when infection was suspected. A likely causative organism was identified in 82% of suspected infections. Organisms detected include *Pseudomonas fluorescens*, Human Parvovirus, TT virus, *Escherichia coli* and *Enterococcus cloacae*. Certain organisms were consistently found at low levels in patient and control samples, providing insight into the background contamination to be expected in this type of analysis. Our approach to identifying organisms in whole blood samples from HSCT patients with and without neutropenic fever shows promise to improve the rate of diagnosis when infection is suspected.

Biography

George Somerset Watts has completed his PhD and Post-doctoral studies at the University of Arizona, USA. He has developed and Co-Directs the Genomics Core Service at the University of Arizona Cancer Center where he has performed genomics services based on microarray and sequencing technology for the past 16 years. He has published more than 25 papers in cancer research and has recently developed methods for identification of pathogens from whole blood and other biological samples which could improve management of infection in applications from diabetic ulcers to febrile neutropenia.

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Notes:

Yeon Hee Kim et al., J Infect Dis Ther 2016, 4:7(Suppl)
http://dx.doi.org/10.4172/2332-0877.C1.017

Management of warning system and national surveillance of *Culicoides* biting midges transmitting arboviruses on cattle farm, 2014-2015

Yeon Hee Kim, Eun Yong Lee, Seong Hee Kim, Jae Ku Oem, Byung Jae So and **Kyoung Ki Lee**
Animal and Plant Quarantine Agency, South Korea

A nationwide vector surveillance program with early warning system, the 5 bovine arthropod-borne viruses (arboviruses), was initiated in the Republic of Korea. Bovine arboviruses are mainly transmitted by blood-sucking arthropods, such as, *Culicoides* biting midges and ticks. *Aino virus* (AINOV) and *Akabane virus* (AKAV), in the family *Bunyaviridae*, are among the arboviruses that cause disease outbreaks in cattle. Bovine ephemeral fever virus (BEFV) is classified into the family *Rhabdoviridae* and is known to cause an acute febrile disease. *Chuzan virus* (CHUV) and *Ibaraki virus* (IBAV) belong to the family *Reoviridae* and cause reproductive disorders, fever and anorexia. This study described results of the arboviruses surveillance conducted by collecting *Culicoides* biting midges in 2014-2015. Arboviruses vector surveillance was conducted by collecting from 4 sites nationwide in cattle farms. *Culicoides* biting midges were caught on a weekly basis using a light trap (SNC, Korea). *Culicoides* species (~60) were pooled into 1 sample and the sample tubes were subjected to RT-PCR for detecting 5 arboviruses. The PCR was performed on by RT-PCR kit (Arbovirus RT-PCR, Median diagnostic. Korea). *C. punctatus* was the most commonly collected species (51.1%), followed by *C. arakawae* (40.0%) and *C. maculatus* (8.6%). A total of 174 pooled samples of *Culicoides* biting midges were tested to detect the presence of arboviruses: CHUV was detected in July, Jeonju City; but it did not provide the precautionary attention level at detection rate. The detection rate of the *Culicoides* biting midges is one of the important factors to predict the possibility of outbreak of arbovirus diseases. By analyzing the surveillance data, the livestock producer can be provided with vital information on when and where arboviruses are active, which may be helpful to prevent potential outbreaks.

Biography

Yeon Hee Kim has completed her PhD from Seoul National University, South Korea. She is currently a Researcher in Animal and Plant Quarantine Agency, South Korea.

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Marcia de Souza Carvalho Melhem et al., J Infect Dis Ther 2016, 4:7(Suppl)
http://dx.doi.org/10.4172/2332-0877.C1.017

Correlation between antifungals susceptibility of *Cryptococcus* spp. and outcome of patients with HIV/AIDS with cryptococcal meningitis

Marcia de Souza Carvalho Melhem[1], **Oscar Jose Chagas**[2], **Renata Buccheri**[2], **Maria Walderez Szeszs**[1], **Marilena dos Anjos Martins**[1], **Lidiane de Oliveira**[1], **Dulcilena de Matos Castro e Silva**[1] and **Daniel Wagner de Castro Lima Santos**[2]
[1]Adolfo Lutz Institute, Brazil
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Cryptococcal meningitis is one of the most common opportunistic infections (OIs) in HIV patients and affects one million people per year worldwide, resulting in 625,000 deaths. The aim of our study was to examine the association between the clinical and laboratorial findings of *cryptococcal meningitis* cases with antifungal minimum inhibitory concentration (MICs) and molecular types of the etiological agents and risk factors associated with in-hospital mortality. Data from 34 patients were reviewed, retrospectively. Regarding the susceptibility test for fluconazole (FLU), using a cutoff of 8 µg/mL and 16 µg/mL, there were no significant differences between clinical presentation, cytological analyses of CSF, time to sterilize the CSF, isolation of fungus at another site, molecular type, previous diagnosis of *cryptococcal meningitis* or the use of FLU and overall mortality. There was a statistical association between mortality and patients who did not have sterilized CSF (p=0.002) when lacking of neurosurgical shunt (p=0.021) and in those who presented with other OIs (p=0.037). In addition, patients who died presented with a higher yeast count (median 1720 cells/mcL) in the first CSF level than those who survived (median 351 cells/mcL) (p=0.021). Patients who presented with yeast cell counts >400/mm3 were associated with greater lethality when compared with ≤400 (p=0.014). We concluded that *cryptococcal meningitis* is difficult to manage and that the aspects associated with greater mortality should be analyzed carefully. The clinical role of MIC is uncertain, and there is no good evidence for its use in routine practice.

Biography

Marcia de Souza Carvalho Melhem is a Pharmacist and has completed her MSc and PhD from Sao Paulo University in Public Health. She is a Scientific Researcher and Master's/Doctorate Advisor at Secretary of Health of the Government of Sao Paulo State. She has published about 60 papers in reputed journals and has been serving as a Reviewer Member.

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Falah A M Salih et al., J Infect Dis Ther 2016, 4:7(Suppl)
http://dx.doi.org/10.4172/2332-0877.C1.017

Mycobacterial growth inhibition by lipophilic compounds

Falah A M Salih, Janan N Hadi, P S Murthy and **T A V Subramanian**
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With the appearance of HIV/AIDS, the unavailability of potential vaccine to prevent the disease and the multidrug-resistant, tuberculosis becomes one of the most prominent health care problems. In this study, we evaluate the potential activity of 2 lipophilic compounds on mycobacterial growth inhibition. Furthermore, an effort was made to understand the mechanism of the growth inhibition by the test agents. The effect of 2 lipophilic compounds, viz., sodium benzoate and deoxycholate on growth and various cellular constituents, such as lipids, nucleic acids and proteins was carried out on *M. smegmatis* using shake and surface culture. Phospholipids were further investigated by studying the P32 incorporation into phospholipids. Medium and short fatty acids especially mycolic acids were further analyzed. FAS activity was estimated by studying the incorporation of acetate-1-C14 into lipids. There was a significant reduction in growth rate of *M. smegmatis* by the test agents. MLC of sodium benzoate was higher than that of and sodium deoxycholate and it was 0.3% w/v and 0.06% w/v respectively. The growth inhibition accompanied by reduction in the cell components such as lipids, nucleic acids and proteins. Both agents caused drastic alterations in lipid compositions especially phospholipids and fatty acids. The alteration in lipid is accompanied by reduction in the short and long fatty acid synthesis (ex: Mycolic acids). FASI and II assay indicated reduction in their activity. Therefore the consequent impairment of membrane permeability function is expected resulting growth inhibition. Mycobacteria can adapt to various undesirable environmental factors such as nutrients and toxic substances by modifying their membrane structure and constituents; lipids and fatty acids especially mycolic acids. Hence, any alteration in the lipid constituents of the cell wall obviously will affect the metabolism of the cell which in turn can affect the growth rate of the organism. However, further investigation on the molecular mechanism of action is needed.

Biography

Falah A M Salih has completed his PhD from Delhi University, India. He has been involved in Teaching and Research in national and international universities for 31 years. Currently, he is working as a Professor in the Faculty of Medicine and Health Sciences in the University Malaysia Sabah, Malaysia.

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Day 1 October 03, 2016

Skin and Infectious Diseases | Dermatologic Surgery | Therapies for Skin Disorders | Genodermatosis | Diagnostic and Clinical Analysis | Dermatological Diseases

Session Chair
Pieter Spee
FibroTx LLC, Estonia

Session Co-chair
Devashri Mukherjee
Decision Resources Group, India

Session Introduction

Title: **Towards skin point-of care devices for personalized skin treatment based on non-invasive biomarker measurements directly from the skin surface**
Pieter Spee, FibroTx LLC, Estonia

Title: **Local skin flap utilization for cutaneous malignancies: A practical approach for success to reconstruction**
Colin P White, Surrey Memorial Hospital, Canada

Pieter Spee, J Infect Dis Ther 2016, 4:7(Suppl)
http://dx.doi.org/10.4172/2332-0877.C1.017

Towards skin point-of care devices for personalized skin treatment based on non-invasive biomarker measurements directly from the skin surface

Pieter Spee
FibroTx LLC, Estonia

Diagnosis of chronic skin inflammation is largely performed by visual assessment, for instance by judging the shape, pattern, position, thickness, redness and scaling of skin lesions on the body. These phenotypic characteristics are typically end-products of the underlying biological processes responsible for disease. Despite the unquestionable value of visual assessment for treatment decisions and patient monitoring, more detailed analyses methods are needed for answering the unmet medical need for offering personalized medicine to patients, e.g., methods that can be used for selection as well as fine-tuning of treatment. Proteins that play a crucial role in skin inflammation, such as cytokines and chemokines, form the molecular root of inflammation and thus have tremendous value for catering personalized medicine in the form of biomarkers. Skin biomarker measurements are typically performed on skin material obtained through invasive procedures and analyses are typically costly and elaborate. FibroTx TAP and SELF are novel molecular diagnostic platform technologies for biomarker measurements directly from skin. These platform technologies are currently being tested in clinical studies for the development of skin diagnostic tools that can objectively assess the disease activity status of skin lesions. The aim of the studies is to develop practical point-of-care devices that can markedly improve skin treatment, which is cost-efficient and does not require the need for extensive clinical laboratory expertise.

Biography

Pieter Spee has received his PhD in Immunology from the Netherlands Cancer Institute, University of Leiden. While at Novo Nordisk, he made significant contributions to Lirilumab and Monalizumab, both currently in phase II clinical development by BMS and AstraZeneca in collaboration with Innate Pharma, respectively. As a Director and Scientific Director, he was heading up preclinical translational research at Novo Nordisk. In 2012, he founded PS Pharmaconsult, offering expert advice on drug and medical device development through a unique 360 degrees patient centric approach. Currently, he functions as a Chief Technology Officer at FibroTx LLC, developing two highly innovative skin diagnostic devices, TAP and SELF, allowing personalized medicine in skin care and clinical dermatology.

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Colin P White, J Infect Dis Ther 2016, 4:7(Suppl)
http://dx.doi.org/10.4172/2332-0877.C1.017

Local skin flap utilization for cutaneous malignancies: A practical approach for success to reconstruction

Colin P White
Surrey Memorial Hospital, Canada

The approach to superficial melanoma and non-melanoma skin cancer reconstruction is complex. Surgical excision and reconstruction can be approached in multiple ways depending on the size of defect, tissue quality, tissue character and position of hairline. The most important factor in skin cancer reconstruction is the location of the defect relative to the anatomic body area. An effective solution to skin defects is not always advanced complicated skin flaps but primary closure and skin grafts can work quite well when used appropriately. We will show that knowledge of basic reconstruction of areas such as the nose, ear and lower extremity are best done with a combination of complex local flaps like the bilobed flap, keystone flap and basic skin grafts. We will show successes and failures of different techniques at sites. The keystone flap is emphasized, as this flap tends to be underutilized and can be of tremendous help in areas such as the lower extremity. We also show that where appropriate primary closure and skin grafts which are often perceived as easier reconstructions can have far superior cosmetic results than more complex flaps. We would like to encourage use of this approach for complex defects and other defect closures. There are several basic principles that we believe are key when approaching various skin defects and we would like to highlight these components during our talk.

Biography

Colin P White is a Plastic Surgeon in British Columbia, Canada. His clinical practice includes skin cancer surgery, hand surgery and congenital & trauma reconstruction.

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Special Session

(Day 2)

Madalene C Y Heng, J Infect Dis Ther 2016, 4:7(Suppl)
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Madalene C Y Heng
David Geffen School of Medicine at UCLA, USA

Phosphorylase kinase inhibition and removal of aggravating factors in the induction of long term remissions in psoriasis

Phosphorylase kinase (PhK) is a cyclic AMP-dependent dual specificity kinase capable of breaking down glycogen and phosphorylating both serine/threonine and tyrosine moieties in the activation of the transcription activator, NF-kB, which in turn is responsible for activating multiple genes responsible for inflammation and cell proliferation. Elevated PhK levels have been observed to correlate with increased phosphorylation and psoriatic activity, while suppression of PhK activity leads to resolution of psoriasis. Genes for psoriatic familial susceptibility have been mapped to 17q and psoriasis susceptibility loci to both 16q and 17q, apparently correlating with genes for the β-subunit of PhK (mapped to 16q) and the regulatory subunit for cAMP protein kinase (mapped to chromosome 17). These genetic findings provide some credence that defective inhibition of PhK activity may be responsible for its elevated activity in psoriasis. PhK is released within 5 minutes following injurious stimuli, including trauma, contact allergens and infections, which serve as aggravating factors in psoriasis. We have developed a protocol, consisting of inhibition of PhK by its selective inhibitor, curcumin, together with removal of aggravating factors to achieve not only total clearance of psoriasis, but also to produce long term remissions without the need for maintenance therapy. In this presentation, we include details of this combination therapy and identification of aggravating factors in our psoriatic patients.

Biography

Madalene C Y Heng is a Clinical Professor of Medicine, Dermatology at the David Geffen UCLA School of Medicine. From 1979 to 2003, she was a Chief of Division of Dermatology, UCLA San Fernando Valley Medicine Program. She is currently in private practice in Heng Medical at Camarillo, CA and is a Reviewer for the *Journal of the American Academy of Dermatology, American Journal of Geriatric Medicine, British Journal of Dermatology, Lancet, London, and International Journal of Angiology.* She is the author of more than 140 scientific publications, including 78 published peer-reviewed articles on topics such as phosphorylase kinase activity and psoriasis, pathophysiology of common skin diseases, and wound healing.

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Scientific Tracks & Abstracts

(Day 2)

Day 2 October 04, 2016

Skin and Infectious Diseases | Dermatologic Surgery | Therapies for Skin Disorders | Genodermatosis | Diagnostic and Clinical Analysis | Dermatological Diseases

Session Chair
Madalene C Y Heng
David Geffen School of Medicine at UCLA, USA

Session Co-chair
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Session Introduction

Title: P.versicolor and skin conditions in dark skin
Dawit Zewdie, Mazoria Higher Clinic, Ethiopia

Title: Application of Adipose Derived Progenitor Cells for Treatment of Chronic Wounds
R B Jalili, University of British Columbia, Canada

Title: The global burden of atopic dermatitis
Devashri Mukherjee, Decision Resources Group, India

R B Jalili, J Infect Dis Ther 2016, 4:7(Suppl)
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Application of Adipose Derived Progenitor Cells for Treatment of Chronic Wounds

R B Jalili
University of British Columbia, Canada

Introduction: Chronic wounds such as diabetic foot ulcers usually fail to progress through the normal wound healing process. Despite widespread effort, current conventional prevention and treatment methods have neither decreased prevalence of these ulcers nor significantly improved their outcomes. This speaks to the need for development of innovative and clinically translatable strategies for treatment of chronic wounds. Stem cell therapy has been examined as a therapeutic approach to chronic wounds throughout the past decade. The use of Adipose derived cells (ADCs) in treatment of chronic wounds has been both promising and practical treatment because of its relatively non-invasive extraction, high proliferation rate, and ability to differentiate into several mesodermal lineages. It has been shown that wounds treated with ADCs applied in the combination of a three-dimensional scaffold exhibit the greatest wound healing outcome.

Methods: In this study, we developed a novel bio-hybrid system comprising an injectable biocompatible crosslinked matrix that is populated with adipose derived cells to form a scaffold within the wound bed. Layers of a nano-woven biopolymer mesh were then served to enhance graft toughness and restore tissue homeostasis ultimately improving the rate of healing of a chronic wound. We compared the viability of adipose derived cells *in vitro* in combination with and without this bioengineered *in-situ* forming skin substitute and then applied it in treatment of full-thickness wounds in a pilot murine chronic wound model.

Results: Adipose derived cells (ADCs) exhibited greater viability and functional characteristics when cultured with the bioengineered skin substitute than those cultured alone. Gross wound measurements of the wound treated with combination of ADCs and bioengineered skin substitute exhibited significantly improved wound healing than untreated wounds or those that were treated with ASCs alone. Future research is warranted to examine the promising use of ADCs as treatment for chronic wounds.

Conclusion: Our bottom-up approach will integrate fundamental aspects of biomaterials design with cellular and molecular medicine to innovate an affordable and employable, novel system for the treatment of chronic wounds.

Biography

Dr Jalili is an Assistant Professor in the Department of Surgery at the University of British Columbia. He is a Principal Investigator at ICORD. Dr. Jalili attended the Tehran University of Medical Sciences for his M.D. and the University of British Columbia for his Ph.D. in Experimental Medicine.

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Devashri Mukherjee, J Infect Dis Ther 2016, 4:7(Suppl)
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The global burden of atopic dermatitis

Devashri Mukherjee
Decision Resources Group, India

At Decision Resources Group, we specialize in forecasting trends in the global burden of diseases bolstered by extensive and comprehensive literature review. Atopic dermatitis, an inflammatory disease characterized by intense itching and eczematous lesions has become a common health problem affecting about 20% of children and 3% of adults worldwide. We base our report on the internationally accepted ISAAC Phase III results to which we retrofitted curves looking at historical data and developed a robust model to generate age and gender wise prevalence estimates for all ages. This model accounted for spontaneous remission as well as the birth cohort effect, which is the observed higher disease risk in children than adults. The ISAAC study results capture a uniform disease definition across all countries in our global estimates and allow for defensible and comparable rates of 12-month prevalence, lifetime prevalence and drug treatable population which we present across the North and South American, European, Asia Pacific, Middle East and African regions. We provide a snapshot of the worldwide prevalence indicating a worrisome rise in the low income countries but almost plateauing in the high income countries. Our report highlights the variation amongst the population eligible for drug treatment between high and low income countries. We also report the distribution of the disease based on its severity and atopic association. Combined with our ten year forecast, our results facilitate identification of countries at risk and enablement of opportunities for affordable promising therapies in those vulnerable countries.

Biography

Devashri Mukherjee has completed her Master's in Public Health from the reputed Christian Medical College of Vellore in India. She is a Dental Surgeon by training and is presently working as an Associate Epidemiologist at the Bangalore office of Decision Resources Group India. She holds 10 international publications to her credit.

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Notes:

Day 2 October 04, 2016

Types of Infectious Diseases | Pathogens of Infectious Diseases | Mechanism and Immunology of Diseases | Diagnostic Microbiology: Applications | Therapies and Therapeutics

Session Chair
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Session Co-chair
Márcia de Souza Carvalho Melhem
Adolfo Lutz Institute, Brazil

Session Introduction

Title: Antibiotic utilization in in the internal wards of a teaching hospital using ATC/DDD Methodology: A comparison study
Fereshteh Raeessi, Azad University, Iran

Title: Prevalence of bacterial bloodstream infections of neonates in Benin City, Nigeria
Samuel A Aziegbemhin, University of Benin, Nigeria

Fereshteh Raeessi, J Infect Dis Ther 2016, 4:7(Suppl)
http://dx.doi.org/10.4172/2332-0877.C1.017

Antibiotic utilization in the internal wards of a teaching hospital using ATC/DDD methodology: A comparison study

Fereshteh Raeessi
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Background: The emergence of antibiotic resistance has been a major spreading problem in the 21st century. Unfortunately, while infections caused by resistant microorganisms gradually increase, antibiotic options for treating them rapidly diminished. One of the factors which can be useful for rationalization and reduction of wasteful consumption of these valuable drugs is by monitoring the prescriptions and pattern of antibiotic usage, in order to establish appropriate measures for their control.

Methods: This study was a retrospective quantitative DUR, in order to determine the pattern of antibiotic consumption in the internal wards of Baqiyatallah Hospital. To perform a comparison with international studies, the anatomical therapeutic chemical classification and defined daily dose (ATC/DDD) methodology was used as recommended by the World Health Organization (WHO) and DDD per 100 bed-days of systemic anti-infectives (J class) used as a quantitative indicator.

Results: During the study period (1 year), total antibiotic consumption was 122.52 DDD/100 bed-days. The 3 most commonly used groups of drugs were carbapenems (26.83), third generation cephalosporins (22.76) and macrolides (20.82) in terms of DDD/100BD.

Conclusion: The first mostly prescribed group of anti-infectives was carbapenem. Considering similar studies in internal wards of France (2007) and Italy (2004), the carbapenem usage in our internal wards was 127.7 and 15.5 times higher in order of appearance. The higher use of systemic anti-infective agents in our study, especially broad-spectrum agents, implies the possibility of irrational prescribing, higher prescribed daily doses than DDDs, and also drug wastage. The results may serve as a basis for further investigations and advanced drug policies.

Biography

Fereshteh Raeessi has gained her PharmD degree in 2015 from Pharmaceutical Sciences Branch of Azad University, Iran. She is interested in medical and pharmaceutical research. She is the responsible Pharmacist in Zagros Darou, a pharmaceutical manufacturing company. Additionally, she is an Expert in Drug Poisoning Information Center in Tehran. She has published more than 3 papers in reputed journals.

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Aziegbemhin S A et al., J Infect Dis Ther 2016, 4:7(Suppl)
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Prevalence of bacterial bloodstream infections of neonates in Benin City, Nigeria

Aziegbemhin S A and **Enabulele O I**
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Blood from 136 neonates admitted at the neonatal units of some hospitals in Benin City, Nigeria and vaginal swab samples of their mothers were obtained and processed using standard microbiological protocols. The most common manifestation of infectious disease amongst the neonates was sepsis (33.8%) followed by pneumonia (27.3%) and meningitis (6.6%). About 13% of the neonates have low birth weight. The most commonly isolated bacteria from both neonatal samples were *Staphylococcus aureus* (27.9%) and *Klebsiella oxytoca* (22.1%); while *Streptococcus pneumonia* (1.5%) was the least isolated. *Staphylococcus aureus* (19.1%) and *Klebsiella oxytoca* (13.2%) were the most frequently isolated bacteria from maternal swab samples while *Proteus mirabilis* were the least isolated. Neonatal bacterial isolates were most sensitive to gentamicin (70.6%) and least sensitive to cloxacillin (1.00%). Similarly, maternal bacterial isolates were most sensitive to gentamicin (58.1%) and least sensitive to cloxacillin (8.09%). Bacterial isolates from neonates and their mothers harbored resistant plasmids. Most neonatal and maternal bacterial isolates were positive for hemolysin. They also showed intermediate and full resistance to the bactericidal action of normal serum. These results show a high rate of neonatal bacterial infections among neonates born in Benin City, Nigeria which have implications for neonatal survival.

Biography

Aziegbemhin S A is an Assistant Lecturer in the Department of Microbiology, University of Benin, Nigeria. He has obtained his BSc and MSc degrees in Microbiology (Medical Microbiology) from the University of Benin. He has high research bias for infectious disease studies, environmental/public health and immunology (host-pathogen interaction studies). He has authored 4 journal publications. He has done some studies on bacterial infections in neonates as well as post-partum mothers in Benin City, Nigeria. He is a winner of the Brenda Howe Africa Scholarship 2012, Nottingham Trent University, United Kingdom.

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Young Researchers Forum

(Day 2)

Muhammad Saeed, J Infect Dis Ther 2016, 4:7(Suppl)
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GeneXpert: A new tool for the rapid detection of Rifampicin resistance in *Mycobacterium tuberculosis*

Muhammad Saeed
Allama Iqbal Medical College, Pakistan

To evaluate the diagnostic sensitivity and specificity of GeneXpert (MTB/RIF) assay for the detection of rifampicin (RIF) resistance in *Mycobacterium tuberculosis* (MTB) by comparing the results with conventional drug susceptibility testing (DST) as "Gold Standard". A total of 2200 pulmonary and extra-pulmonary specimens were collected from TB suspects from 2012 to 2014. All specimens were processed for ZN staining, LJ culture according to WHO protocol GeneXpert (MTB/RIF) as per manufacturer instructions. All cases positive for MTB were further processed for DST for RIF. Out of 2200 Tb suspects, 840 (38.18%) cases were GeneXpert (MTB/RIF) positive for MTB. Among these 15.6% (134/840) cases showed RIF resistance. The sensitivity, specificity, PPV and NPV of GeneXpert for RIF resistance were found to be 98.3%. 99.1%, 94.7% and 99.4% respectively by comparing the results with DST. Our study revealed that GeneXpert (MTB/RIF) is an extremely helpful diagnostic tool for detection of RIF resistance in TB suspects with fairly high sensitivity and specificity along with 2 hours turnout time, which facilitates proper in time management and treatment among MDR-TB patients in developing countries.

Biography

Muhammad Saeed has completed his BSc in Medical Laboratory Technology from University of Health Sciences Lahore, Pakistan. He is working as a Medical Laboratory Technologist in Punjab Institute of Cardiology Lahore. He has published more than 9 research papers in well reputed Pakistani journal.

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