FIDSSA Quarterly

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16th ICID, 2-5 April 2014. Join our Plenary Speakers



FIDSSA is the proud collaborating host Society for what will be the most important Infectious Diseases conference to be held so far in South Africa. The excellent scientific programme includes leading international plenary and symposium speakers augmenting top continental talent from Africa. With strong tracks relevant to both adult and paediatric infectious diseases, in Antimicrobial Resistance and Steward-

ship, HIV, Tuberculosis, Malaria, Vaccinology, and Zoonoses there is truly something for everyone at ICID. It's not too late to register at http://www.isid.org/idid/ registration_guide.shtml. We look forward to seeing you in sunny Cape Town next month!



Salim S. Abdool Karim "Preventing HIV"



Uche Amazigo "Community directive initiative and neglected



Jonathan McCullers "Influenza: understanding pathogenesis to improve outcomes"





Ziad A. Memish "MERS-COV"



Ron Dagan "Otitis media as an Infectious Disease: The Debate Goes On"

Tales of a solo ID physician in the Eastern Cape

THE FEDERATION **OF INFECTIOUS** DISEASES SOCIETIES OF

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ICID Plenary speakers

and registration news

2014 WSAVA Global One Health Award to

Prof Lucille Blumberg

SOUTHERN AFRICA

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Peter Piot "Old and New **Global Challenges in** Infectious Diseases"

News on the Travel Medicine Front



South African Society of Travel Medicine

Yellow Fever vaccination requirements

Frequently the question is asked: What are the official yellow fever vaccination requirements? And another: Will a waiver certificate be accepted by the authorities?

Confusion arises because many other countries, unlike South Africa, do not have the vector for the transmission of yellow fever, so the necessity of a traveller requiring a yellow fever vaccination is based on a more specific risk assessment. And what is the situation if a traveller is in transit at an airport in a country which has a yellow fever risk? Where does one find the answers?

The National Department of Health, the National Institute of Communicable Diseases and the South African Society of Travel Medicine have formed a network, the South African National Travel Health Network (SaNTHNet) which provides the answers to these questions, and others, relating to health risks for the traveller to South Africa. Visit <u>www.santhnet.org.za</u> for further information on these issues and more.

Travel Health Africa: Quo Vadis – 18 – 21 September 2014

SASTM is hosting its biennial conference at the Elangeni Hotel from 18 – 21 September.



Africa is becoming, if it has not already become, the centre stage. Not only is there conflict and strife in Africa resulting in misplaced population groups, but there is simultaneously rapid expansion of corporate business and travel into Africa. Africa provides excitement and challenges - it is enticing and lures businesses and travellers into its fold and net of the unexpected.

Various issues relating to infectious diseases, vaccine developments, sexually transmitted diseases, the concept of voluntourism and the impact this has will be discussed and debated. Despite the advances in chemoprophylaxis, the development of rapid diagnostic tests and treatment, malaria remains an almost insurmountable problem. Will the envisaged vaccine have an impact on the prevalence of malaria? Do emerging diseases to the

north of South Africa pose a threat for us? With an outbreak of dengue fever in Angola it is a matter of time before dengue cases appear in South Africa – we need to be ever vigilant.

Included in the registration fee is an informal dinner, where one will have the opportunity of hearing, at first hand, the experiences of Sean Wisedale - the first from Africa to climb the highest mountain on each continent – during his ascent of Mt Everest.

An invitation is extended to all FIDSSA members to attend this Congress. Visit <u>www.sastm.org.za</u> for programme and registration information.

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National Antimicrobial Susceptibility Testing Committees (NACs) South Africa



Membership consists of medical microbiologists, under the chairmanship of Olga Perovic. The inaugural meeting will take place on 20 February 2014, where the NAC mandate will be discussed.

Proposed terms of reference in line with the European Committee on Antimicrobial Susceptibility Testing (EUCAST) include:

To provide expert advice to laboratories and other stakeholders South Africa-wide on all aspects of susceptibility testing.

To assist laboratories in transitioning from CLSI to EUCAST methods and breakpoints (where available).

To provide advice on antimicrobial resistance surveillance and interpretation of data relevant to the type of surveillance.

To run educational workshops on basic and advanced aspects of susceptibility testing.

To liaise with international standard setting bodies such as EUCAST and CLSI.

To promote quality assurance.

To formulate strategy at a national level.

Funding of this committee will be from SASCM.

Carbapenem Resistant Enterobacteriaceae (CRE) Working Group



At a SASCM meeting held in Johannesburg February 2013 it was decided to form a number of subcommittees to tackle various topical and relevant clinical microbiology issues. A committee named the Carbapenem Resistant Enterobacteriaceae Working Group (CRE-WG) was formed. The aim of this committee was to provide guidance and recommendations regarding the screening and detection of CRE, in particular carbapenemase-producing Enterobacteriaceae (CPE). The committee comprised a number of microbiologists from both the public and private sector throughout the country, and sought to engage the issues via email, teleconferences and ad-hoc meetings. After extensive discussions, debates and disputes a resolution consensus statement and working guideline was formulated. This document (submitted for publication) serves as a SASCM endorsed national guideline and aims to address two main issues: (i) Criteria for screening patients for carriage of CPE; (ii) Recommendations for laboratory detection of CPE. The document is supported by both local and international data and by the expert opinion of committee members where no supporting data was available.



This document is aptly named a "working" guideline as there are many unanswered questions in this burgeoning field, and it is accepted that this is the beginning of a journey. It is envisaged that as more data and newer technologies become available the document will require further revisions and updating. Additionally there are other important aspects (clinical and laboratory) of CRE/CPE that have not been addressed, and the CRE-WG aims to add these to future revisions. The SASCM CRE-WG will endeavor to remain abreast of latest developments and importantly focus on local data that will assist in creating a guideline relevant to the South African context.

Trichomonas vaginalis: An overview Dr Etienne Muller and Dr Frans Radebe



Sexually Transmitted Diseases Society of Southern Africa

Trichomonas vaginalis (TV), the causative agent for human trichomoniasis, is an anaerobic flagellated protozoan parasite that infects the human urogenital tract. Trichomoniasis affects between 170-180 million people per year worldwide and is considered the most common curable sexually transmitted infection (STI) [1,2]. Up to 80% of TV infections are asymptomatic (77.3% and 80% in men and women respectively) [3,4,5,6], and are an important concern for public health as asymptomatic individuals may transmit the infection to their sexual partners and increase the risk of preterm labour, pelvic inflammatory disease (PID) and acquiring HIV [7,8,9].

There is currently no prospective data describing the persistence of asymptomatic infection in men. The WHO estimates that more than half of all new TV infections each year occur in men, even though 89% of prevalent TV cases are found in women [10]. Biological differences between the sexes, such as the greater availability of iron in the female genital tract during menstrual bleeding and the presence of oestrogen may contribute to different sex-dependant epidemiological outcomes of TV infection [11,12]. Symptomatic TV infection in men usually clears within 10 days, whereas in women symptomatic TV infection can persist for years [13,14]. Clinical manifestations are mainly observed in women, ranging from mild to severe disease affecting the vulva, vagina, cervix and the urinary tract. Infection is usually accompanied by a frothy, yellow-/green discharge which is a result of inflammatory changes in the vagina and ectocervical epithelium [15]. Trichomoniasis is commonly diagnosed among women infected with HIV the prevalence ranging between 6.1% and 52.6% [8,17-24]. It has been shown that trichomoniasis increases sexual transmission of HIV up to twofold [8]. TV was detected in 7.6% of HIV infected asymptomatic individuals (men and women) that was offered voluntary STI screening at a South African HIV treatment center [25]. HIV-infected women also tend to experience more episodes of repeat TV infection, compared to HIV negative women [26,27].

Diagnosis of TV has been suboptimal in many locations, especially in marginalized populations [28]. Broth culture (Diamond's, InPouch TV system) and wet-mount microscopy are the most commonly used methods to detect TV but are less sensitive than nucleic acid amplification (NAAT) tests, which are not routinely used for the diagnosis of trichomoniasis. The analytical sensitivity of NAAT tests, which include PCR, transcription mediated amplification (TMA) and other technical variations, are higher than that of culture, microscopy, antigen detection or nucleic acid probe assays [29]. NAATs also have a high analytical specificity due to the use of nucleotide primer and probe sequences that are specific to the target organism [29].

The greatest limitation of using NAAT technology is the inability to use it as a test of cure of trichomoniasis, as NAATs may remain positive for a number of days (up to 2 weeks) after successful treatment for TV infection [27].

Metronidazole (Flagyl), a nitroimidazole derivative, is the drug of choice for treating trichomoniasis. According to the most recent Standard Treatment Guidelines and Essential Medicines List for South Africa, an immediate 2g single oral dose is recommended. According to the Centers for Disease Control and Prevention (CDC) the recommended metronidazole regimen (the same as in South Africa) results in a cure rate of between 90% and 95% [30]. Resistance is typically due to a number of mutational changes that affect both aerobic and anaerobic mechanisms of metabolism but could also be due to insufficient absorption and/or transport of the drug to the active site of infection, the presence of bacterial flora that inactivate the drug, reinfection and non-compliance with drug therapy [31-33]. In certain instances TV drug resistance may be overcome by increasing the dose of metronidazole [34]. A number of patients have demonstrated allergies as well as low tolerance levels to increased doses of metronidazole [33]. Due to this fact and the increase in metronidazole resistant TV, a number of alternative therapies have been proposed such as tinidazole, paromomycin sulfate, clotrimazole, povidone-iodine and acetarsol [35-37].

Differences in virulence among TV strains, accompanied by host factors, are most likely responsible for the diverse clinical spectrum of disease [38]. TV has the potential to induce dysbiosis in the human microbiota by means of phagocytosis of bacterial and fungal cells [39]. There is also a correlation between the presence of TV and low abundance of protective lactobacilli but with higher proportions of anaerobic micro-organisms such as *Mycoplasma*, *Prevotella* and other bacteria that are usually observed in bacterial vaginosis (BV) [40].

There has been a lot of ambivalence about the clinical importance of trichomoniasis since most individuals infected with TV lacked symptoms. TV has therefore never been the target of any focused diagnosis and eradication programme and continues to spread within sexual networks. Screening and effective treatment should be directed towards populations at greatest risk where TV is endemic.

A full list of references can be obtained from Dr Frans Radebe (frans@nicd.ac.za)

ICSSA: Exciting plans for 2014



Infection Control Society of Southern Africa

The newly elected committee is planning to take the Infection Control Society of Southern Africa to new heights during their term and will be relying on the solid foundation left by our former president and his committee.

During a strategic planning session it was agreed that one of the key outputs for the committee is to develop a curriculum based on a set of core competencies and to motivate (and gain acceptance) for a formal standardized course in Infection Prevention and Control that is recognized by the South African Nursing Council. The motivation is in draft format and role players who were previously involved with this work are urged to send copies of previous documents and communications in this regard to assist and strengthen our motivation.

We have also established draft core competencies for the course and these will be opened to the greater multi-sectorial committee for comment and input prior to finalization.

The constitution is under review and a broader committee, which include members from all sectors, which will balance and fully represent multi-sectorial stakeholders. This will be achieved through oneon-one communication and active marketing at upcoming events.

Another output is to give members more 'bang for their buck' and in the near future our webpage will include links to guidelines that can be used in the South African setting as well as active promotion of patient safety campaigns. A frequently asked questions and answers link is being considered in order to decrease queries directed to committee members.

In line with our commitment to actively promoting patient safety campaigns, ICSSA strongly and actively support the World Health Organization's (WHO) 'Clean Hands Saves Lives' together with the global campaign held on the 5th May of each year to promote this activity.

According to the WHO, as of 6 December 2013, a total of to 16 220 hospitals and health-care facilities in 168 countries or areas had registered their commitment to hand hygiene as part of the global campaign. The map shown on their website (<u>http://www.who.int/gpsc/5may/registration_update/en/index.html</u>) 'colours' participating countries in orange and Africa appears as one of the least active areas in the world.

Infection Control Africa Network (ICAN) has introduced a catchy project and committed to 'Save liveshelping to make Africa more Orange'. They have called on all organizations to stand together in order for us to achieve this crucial goal.

ICSSA support and commit to active participation and look forward to help 'colour Africa Orange'.

Feedback from the FIDSSA conference was very positive and the focus on antimicrobial stewardship and CRE's was welcomed by all. We continue to grapple with consensus re screening for CRE's and look forward to the published guidelines from the CRE-working group.

If you would like to share anything or have comments or suggestions, please contact either myself (<u>joy.cleghorn@lifehealthcare.co.za</u>); Lesley Devenish (<u>Lesley.Devenish@netcare.co.za</u>) or Briette du Toit (briette.dutoit@mediclinic.co.za).

Joy Cleghorn, ICSSA

Infectious Diseases - A long road ahead. Dr John Black

When you start a new job there is always a balance between your own expectations and those of your employer and fellow staff members. This is even more difficult when you arrive as a sub-specialist in an under-resourced area, with no clear

job description but the expectation of being the person who will fix the problems facing a wide variety of staff members.



Having arrived in Port Elizabeth to establish an Infectious Diseases Department, I was under no illusion that there would be challenges, but I was quite unprepared for the sheer volume of challenges that were presented to me on arrival. Rampant antibiotic prescribing with high rates of CREs, ESBLs and the occasional VRE, complete disregard for IPC, an expanding drug resistant TB problem and the usual complex HIV workload. Whilst many of the staff and management remain blissfully unaware of the challenges around them, there are a few who are championing the causes of Antibiotic Stewardship and IPC despite the lack of support from fellow colleagues and management. These individuals have taken it upon themselves to stem the tide of the poor medical management of infectious diseases and are generally met with disdain rather than admiration. The arrival of an Infectious Diseases sub specialist was thus met with an expectation that an "expert" had arrived to champion every cause, and a few that were unrecognized!

This highlights the issues around the training provided to the relatively new sub-specialty of Infectious Diseases in South Africa. Early graduates in Infectious Disease are bound to gravitate to academic centres and to have strong research interests that are crucial to inform policy and expand knowledge. This training occurs in areas where there is a functioning and supportive infrastructure, that I certainly took for granted. As a result, I never had the appreciation of what level of support is required to run a new department effectively, nor did I develop the appreciation of how to set one up.

If the good work that is generated out of the tertiary centres is to be translated into changes in the wider community, then the training and support structures need to be adapted to meaningfully affect this change, much like many of the HIV initiatives. The new accreditation of Pietermaritzburg as a satellite training facility under Halima Dawood is an example of expanding the access to training in other areas. Support from ICSSA, SASCM and SAASP to create partnerships between the local society members, laboratories, task teams and the local facilities would go a long way to initiate or improve the services in under-resourced areas. An example of this has been the partnering of a Private laboratory microbiologist with the Livingstone ICU to advise on antibiotic management and promote antibiotic stewardship. There are many examples of these partnerships and they should be actively promoted.

Besides the challenges, what has struck me in my short time in Port Elizabeth, is how appreciative people have been to have any interest or support shown in their work and how motivated they are for change. Infectious Diseases remains a highly relevant specialty that needs to adapt, and together with other FIDSSA societies needs to expand their reach into new areas to continue to support the work of these people.

Other news from IDSSA

Congratulations to Prof Lucille Blumberg who is the recipient of the 2014 WSAVA Global One Health Award to be presented in September in Cape Town. The award is given in recognition of her leadership in working with both the human medical and veterinary communities on diseases of zoonotic importance in southern Africa. Her work has focused on rabies, avian influenza, rift valley fever, CCHF as well as on a zoonoses study with vets in the Mnisi community in Mpumalanga.

The One Health concept originated following the Global Response to the Highly Pathogenic Avian Influenza and recognizes that the health of humans, animals and ecosystems are interconnected. It aims to improve health and well-being through the prevention of risks and the mitigation of effects of crises that originate at the interface between humans, animals and their various environments.

Two messages from SASPID - Mark Cotton, Brian Eley & Ute Halbauer

From congress to congress

Congresses are absolutely vital for keeping up with new developments. We have "survived" the 8th Congress of the World Society of Paediatric Infectious Diseases (WSPID) 2013 in Cape Town. This was a memorable but fleeting



experience, with huge attendance, stimulating talks and an array of outstanding research presentations of interest to the busy clinician and active researcher. Some 1368 delegates from more than 100 countries attended and included many colleagues and friends from our continent. The diversity of state-of-the-art talks was absolutely breathtaking, including a comprehensive history lesson on preventing epidemic meningitis in Africa by Brian Greenwood and new insights by the doyen of vaccinology, Stanley Plotkin. Local presenters held their own with the best in the world, led by the WSPID president, Shabir Madhi.

We now look forward to the 16th International Congress of Infectious Diseases (ICID) again in Cape Town (April 2 – 5, 2014). There will be a big focus on Africa & this meeting represents an excellent opportunity to learn what is happening on our continent. Vaccines strategies such as immunizing pregnant women to protect vulnerable infants will be addressed. There will be an interesting focus on linking animal to human health and human disease and also attention will be given to refugees. Judicious antibiotic usage in children and the benefit of antibiotic guidelines will be addressed in an interesting symposium. As always in South Africa, HIV and TB will be covered. Special focus will be given to TB diagnosis in children (still challenging)

Preparations for the RSV 2014 (9 to 13 November 2014) meeting at Spier are under way under the leadership of Prof. Marietjie Venter of the NICD. SASPID will play a major role in organizing this conference. This will be the 9th meeting dedicated to the science of RSV, its clinical importance and an update in vaccines. RSV is a major cause of respiratory infection and morbidity in the young, elderly and immunocompromised. Vaccine development is underway. Despite recent vaccine setbacks we look forward to hearing about new initiatives including two potential vaccine candidates mentioned by Stanley Plotkin at WSPID 2013, namely a replication-defective Gorilla adenovirus vector containing RSV F gene and the antigenic site of RSV pre-fusion F antigen. RSV morbidities are now being quantified in children.

Vaccine shortages in South Africa

Lastly, we present some thoughts on an established vaccine - hepatitis B virus (HepB). There have been recent shortages due to unexpected batch failures. It is essential that "catch up" strategies are established once vaccine availability improves.

Burnett et al published a review of HepB immunization in South Africa since its inception in 1995 (Burnett RJ Vaccine 2012 C45-51). Apart from a large reduction in hepatitis, the incidence of hepatocellular carcinoma and HBV-related nephropathy has markedly declined in children. Issues to consider, pending more research, are implementing a birth dose and subsequently using a hexavalent vaccine (DTaP-IPV-Hib-HepB) vaccine to reduce the number of injections.

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