THE FEDERATION OF INFECTIOUS DISEASES SOCIETIES OF SOUTHERN AFRICA

FIDSSA Quarterly

Volume 3 Issue 3 1st Sept 2012

Special points of interest:

- 16th ICID comes to Cape Town
- Antifungal susceptibility testing for candida
- Lessons from an antibiotic Stewardship program

FIDSSA to host the 16th International Conference on Infectious Diseases in Cape Town, April 2014

We are delighted to announce that the 16th International Conference on Infectious Disesaes (ICID) is coming to Cape Town in 2014. ICID is the largest International Infectious Diseases Conference and is organized by the International Society for Infectious Diseases (ISID). FIDSSA will act as the collaborating Society with ISID in 2014.

The Local Organizing Committee will include representatives from all of FIDSSA's societies, who will join other leaders in Infectious Diseases from South Africa and the ISID International Organizing Committee to put on a memorable conference. Professor Keith Klugman, President of ISID and a longstanding member of FIDSSA will chair the International Organizing Committee. ICID presents a fantastic opportunity to discuss the key issues in Infectious Diseases that face South Africa and to showcase the rich talent and diversity of Infectious Diseases in its broadest sense in the region. It will also allow us to invite numerous international speakers to make an unparalleled learning experience. For further information on this and other ISID meetings, keep an eye on the FIDSSA and ISID websites (http://www.isid.org). We look forward to welcoming you to Cape Town in April 2014!

Pertussis: The forgotten booster

South African Society of Travel Medicine
SASTM

Jeannine van Lochem

Despite infant vaccination programmes, there have been 22,000 recorded cases of pertussis in the United States of America up to August 2012 and it could be the worst outbreak in half a century if the figures keep on rising. Wisconsin has recorded 3,496 cases, Washington State 3,484, and Minnesota 2,039 cases. Other countries that also recorded outbreaks are Canada (2,000) mainly from British Colombia, Southern Alberta and Ontario, the United Kingdom (1,080 cases countrywide) and Australia, which has reported 10,644 cases this year, mainly from western Australia. The outbreak started in 2010 and has not yet been brought under control.

Pertussis has a cyclical global outbreak every three to five years despite vaccination. It occurs year round but peaks in summer and autumn. The attack rate in the non-immunized population is between eighty and a hundred percent, but decreases to twenty percent when people are immunized.

Most people affected in the recent outbreaks were teenagers and young adults. This could imply that childhood vaccine protection for pertussis is wearing off. There are basically two different vaccines available, namely the whole cell (wPv) and the acellular vaccine (aPv). The wPv is the older type and is much more potent, but also has many side-effects. These range from hypotonia and convulsions to encephalopathy. It is only used in certain developing countries and is not given after seven years of age. The aPv is a newer vaccine with a much better side-effect profile but also less potency. It has been used exclusively in the USA for the past thirteen years since infancy and its lesser potency could be the reason why so many thirteen year olds were infected recently. In reaction to this, many vaccination campaigns have been instituted to give boosters to high school children and students.

Why is it important for travellers to any of those countries affected to be immunized against pertussis?

The first reason is that the traveller's immunity might have waned and they would be susceptible to pertussis infection.

The second is that travellers can carry the infection, transmitting it to infants under six months of age who have not completed their immunization schedules. This group have a very high morbidity and mortality rate. Spells of apnoea as well as pneumonia commonly develop, resulting in prolonged hospitalization. Survivors often have recurrent lung infections for years to come.

The third reason is simply that prevention is better than cure. Pertussis usually starts like any upper respiratory tract infection and is impossible to diagnose in the beginning. Once the symptoms of pertussis begin, antibiotics and cortisone have no affect on the course of the disease.

The pertussis vaccine available in South Africa for young children and adults contains acellular pertussis and is combined with inactivated polio, tetanus and diphtheria. It has an excellent side-effect profile and can be safely used from six to sixty five years of age. It is not used in infant vaccination programmes.

It is part of the latest immunization schedule for six and twelve year olds. All adults, including pregnant women, should be asked regarding any boosters given, irrespective of whether they are travelling, and immunised accordingly. A booster dose should be administered every ten years.

The effect of male circumcision in reducing the spread of HIV in South African Men

For decades, circumcision has been advocated for religious purposes among the Jews and Muslims, for cultural reasons among several african ethnic groups, for reasons of hygiene in developed countries and for therapeutic purposes as a cure for diseases such as phimosis. In all these situations, cultural differences between circumcised and uncircumcised men may affect their sexual and hygienic behavior including their exposure to various STIs and HIV. There is evidence regarding the associations between lack of circumcision and various health risks among others, penile and cervical carcinoma mediated by HPV infection.

Three years after the start of the male circumcision roll-out in Orange Farm (Gauteng), a marked reduction in HIV prevalence and incidence has been observed in the circumcised men. This demonstrates for the first time that male circumcision roll-out is effective at community level in curbing the spread of HIV.

The protective effect of adult male circumcision on HIV acquisition was first demonstrated in three randomized trials conducted in South Africa (2005), Kenya (2007) and Uganda (2007). These studies found that the risk of HIV infection was reduced by 60% among circumcised men. This led the WHO and UNAIDS in 2007 to recommend adult male circumcision as an additional HIV prevention strategy in communities with high HIV prevalence and low prevalence of male circumcision.

Several large-scale programs of safe, voluntary male circumcision are currently under way in sub-Saharan countries such as Swaziland, Kenya, Zimbabwe and South Africa. However, there was no evidence on the capacity of these programs to reduce the number of new HIV incidence and the proportion of HIV prevalence. The recent South African study has now provided this evidence, by showing that circumcision effectively curbs HIV prevalence in men at community level.

The study was conducted between 2007 and 2010 in Orange Farm, Gauteng. Free safe circumcision was offered to all willing male residents over 15 years of age. More than 20 000 circumcisions were performed. The intervention involved community mobilization and outreach as well as a large-scale information provision on prevention, including screening, distribution of condoms and the promotion of sexual and reproductive health.

Between 2007 and 2010, the percentage of circumcised men increased from 16% to 50% in the 15 to 49 age group, peaking at 59% in the 15 to 24 age group. There were no differences between circumcised and uncircumcised men in terms of sexual behavior, notably condom use. In circumcised men, there were reductions of 55% in HIV prevalence and 76% in HIV incidence. This incidence reduction did not differ statistically from that observed in the original three trials. The study also showed that if no man had been circumcised in this community over this period, HIV prevalence would have been 25% higher than it is and HIV incidence 58% higher.

As suggestions have shown that there is an association between circumcision and HIV transmission, the magnitude of the benefit should be balanced with the expected medical complications, the acceptability and the cost of the medical intervention and the position to support rather than discourage the circumcision practice.

Further Reading & References:

1.Chao A, Buterys M, Musanganire F et al. Risk factors associated with prevalent HIV-1 infection among pregnany women in Randa. Int J Epidemiol 1994; 23: 371-80.
2.Isabelle Vincenzi, Thierry Mertens. Male circumcision, a role in HIV prevention? AIDS 1994; 8: 153-160.
Press release IAS Meeting Rome, 20 July 2011. Abstract no WELBC02

SASPID Symposium at the South African Paediatrics Association Conference

The SASPID symposium was chaired by Mark Cotton of Tygerberg Children's Hospital. The following are summaries of the talks, compiled by the presenters.

Outbreak response - Theuns Avenant and Nicolette du Plessis (UP)
The 1st session started with a description of a meningococcal outbreak in Olievenhoutbosch, Gauteng in Sept-Oct 2011. The affected community was in a developing area with numerous crèches and schools. The outbreak started in one crèche with 8 pupils affected, and spread through the community and to another crèche sharing transport. The outbreak lasted 2 months and led to 4 deaths. Possible reasons for the continued spread of meningococcal disease during this outbreak were discussed. The choice of post-exposure prophylaxis as well as the informal nature of the community structure was forwarded as part of an explanation of what has happened.

We were reminded that there are a number of artificial causes for an increase in the expected number of cases such as improvement in diagnostic methods, seasonal variations and increased access to healthcare, that need to be considered. Ways of verifying the diagnosis were highlighted and then the characteristics of a good case definition were discussed. Essential elements of a line list, including identification, demographic, clinical and laboratory information were presented.

The generation and evaluation of a hypothesis by further studies is an important step during an investigation. Emphasis was placed on good communication during and after outbreaks.

New TB Diagnostic tests - Brian Eley from Red Cross War Memorial Children's Hospital
Brian discussed developments relating to the diagnosis of childhood TB. Results of two systematic reviews and meta-analyses support a World Health Organization (WHO) policy directive published at the end of 2011, which recommended that interferon-gamma release assays should not replace tuberculin skin testing for the diagnosis of either latent or active TB in children in low- and middle-income countries.

WHO has also recommended that Xpert MTB/RIF, a nucleic acid amplification test for simultaneously diagnosing TB and identifying rifampicin-resistant isolates, should be used as the initial TB test in settings characterised by high MDR-TB and/or HIV-associated TB rates, and that one sputum specimen for diagnostic testing should be processed by Xpert MTB/RIF in both adults and children with suspected TB in these settings. This WHO policy was published before the results of paediatric studies were known. Three new papers evaluated the performance of Xpert MTB/RIF in children.

These studies showed that Xpert MTB/RIF was superior to smear microscopy, reliable for identifying rifampicin-resistant isolates, but to optimise the sensitivity of Xpert MTB/RIF in paediatric practice at least two independent sputum specimens should be tested. Furthermore, at least eight studies have evaluated Xpert MTB/RIF on extra-pulmonary specimens in both adults and children. These laboratory-based studies suggest that the test may be useful on gastric washings and fine needle aspirates. Variable performance was documented on cerebrospinal fluid (CSF) specimens. Further evaluation of the performance of Xpert MTB/RIF on these specimen types in children in low- and middle-income countries is warranted.

Finally, the recent literature indicates that complex biosignatures are being explored for their diagnostic potential. Whether these modalities will ultimately find a place in paediatric practice remains unclear.

HIV & ARV update - Lee Fairlie, Chris Hani Baragwaneth Hospital
Current PMTCT coverage rates were presented: between 59-70% of HIV-exposed infants are tested by HIV DNA PCR by 2 months of age, with an early absolute HIV transmission rate <3% nationally. The current PMTCT guidelines for South Africa are based on clinical and immunological criteria for starting triple therapy. The WHO PMTCT update document published in 2010 was presented and the pros and cons of options B (triple therapy for *all* HIV infected women through pregnancy, delivery and breastfeeding until 1 week post breastfeeding cessation) and B+ (as for B but lifelong triple therapy for women) were discussed. If fixed dose combinations of triple therapy become available it is likely that options B and B+ will be implemented in South Africa in the near future. We were reminded of the importance of HIV testing for HIV exposed infants as per Department of Health (DoH) protocol.

All HIV-infected children <5 years are to be started on ART regardless of clinical or immunological status (DoH circular). Hopefully this will prevent delays in children accessing ART. There is a concern that children are often not being tested for HIV in the first place, especially older children who may present to hospital extremely immunocompromised clinically and immunologically as a first HIV presentation. Current ART guidelines were presented with discussion surrounding new ARVs for children requiring second and third line ART, including new PIs, NNRTI's, integrase inhibitors and entry and fusion inhibitors. The drugs that would be most appropriate for a third line ART for South African children would be darunavir, etravirine and raltegravir. Atazanavir would be a useful drug for children with dyslipidemias. There are many new exciting changes anticipated in the South African PMTCT and paediatric ART guidelines which will contribute to the improved care and outcomes for HIV-affected and HIV-infected children.

Cryptococcal disease in children - Raziya Bobat, King Edward VII Hospital
There had been an increase in the number of children with unusual and/or severe Cryptococcal disease at the ID unit at King Edward VIII Hospital (KEH) during the past few years. The talk highlighted recently released WHO guidelines on management of Cryptococcal disease.

Four children were described, together with relevant photographs and X-Rays. Patient 1 was HIV positive on HAART. He had disseminated disease, with skin lesions, arthritis, and osteitis, as well as lytic lesions of the skull and long bones. Biopsies of the skin lesions and of the bone were culture positive. The child required protracted treatment. Patient 2 was HIV positive, on HAART. She had a prior history of Cryptococcal meningitis and was on Fluconazole prophylaxis. She developed a cerebral cryptococcoma and visual impairment. Patient 3 was HIV positive on HAART. She had previously been diagnosed with Cryptococcal meningitis and was on prophylaxis. She presented subsequently with a massive hepatomegaly. Biopsy of the liver showed multiplying *Cryptococcus neoformans*.

Patient 4 was HIV negative and presented with a mass over the right shoulder as well as acute respiratory distress. Biopsy of the mass revealed *Cryptococcus neoformans*.

Diagnosis of Cryptococcal infection: Laboratory tests include India ink stain, cryptococcal latex agglutination test (CLAT), culture (gold standard), and the lateral flow assay (LFA). Wherever possible, the CLAT must be performed. This test can be conducted on CSF as well as on serum. If meningitis is suspected and there are no contra-indications, a lumbar puncture (LP) must be performed, and the CSF sent for CLAT. If there are contra-indications to LP, the serum antigen test can be performed; if positive, the patient must be presumed to have Cryptococcal meningitis. Where there are skin lesions or masses, a biopsy should be performed, and the specimen sent for culture and histology.

Summary of WHO treatment guidelines: There are 3 phases to treatment, induction, consolidation and maintenance. These new guidelines recommend a 2-week induction phase with a combination of Amphotericin B and Fluconazole. The consolidation phase is 8 weeks with a single drug, Fluconazole, in a dose of 6-12mg/kg/day. Finally, during the maintenance phase, the patient receives Fluconazole at a dose of 6mg/kg/day. If the child is < 2years old, maintenance must not be stopped. If the child is > 2years old, maintenance can be stopped if the child had been adherent to treatment for at least one year and there is good immune recovery.

As Amphotericin is nephrotoxic, it is important to ensure adequate hydration and the urea, creatinine and electrolytes must be closely monitored during therapy. Primary prophylaxis is currently not recommended for children.

Antifungal susceptibility testing for Candida species. A brief update for clinical microbiologist and treating physician

Nelesh P. Govender, NICD – Centre for Opportunistic, Tropical and Hospital Infections, a Division of NHLS

Candida bloodstream infections are common and are associated with an attributable mortality rate that approaches 50% (1, 2). Empiric treatment with an appropriate antifungal agent to which the isolate is susceptible *in-vitro* may be associated with a significant reduction in crude mortality (3). Choice of empiric antifungal treatment is usually based on knowledge of the species distribution and antifungal susceptibility patterns for a hospital or hospital unit. Physicians request antifungal susceptibility testing (AFST) at the time of blood culture in order to maximise the chance that the patient will receive appropriate antifungal treatment; therefore, AFST needs to be performed and reported rapidly together with species-level identification by the laboratory. The Clinical and Laboratory Standards Institute (CLSI) and the European Committee on Antimicrobial Susceptibility Testing (EUCAST) have both provided standardised methods for AFST of *Candida* species (4, 5). The CLSI sub-committee recommended in 2008 that clinical microbiology laboratories read AFST MICs together with antibacterial susceptibility test MICs at 24 hours (4). This has reduced laboratory turn-around time enabling physicians to make decisions earlier. Both CLSI and EUCAST have also provided clinical interpretive breakpoints for *Candida* species and selected antifungal drugs. Breakpoints are used to indicate those isolates that are likely to respond to treatment with a given antifungal drug if administered at an appropriate dose (6).

Although EUCAST has provided species-specific breakpoints for several years, the CLSI sub-committee originally assigned breakpoints for fluconazole, voriconazole and the echinocandins (caspofungin, micafungin and anidulafungin) that could be applied to all species of *Candida* (4).

The 2008 breakpoints will be revised in 2013 for several reasons (5). First, it is clear that the MICs of these antifungal drugs vary by *Candida* species. Second, comparison of ECVs with the published breakpoints show that the breakpoints were simultaneously too high to allow detection of emergence of resistance among highly-susceptible species (e.g. *Candida albicans* and fluconazole) and bisected the wild-type MIC distribution of other species (e.g. *Candida glabrata* and fluconazole). Third, clinical outcome data were only available for the commonest *Candida* species. Development of the new species-specific breakpoints for six *Candida* species (*C. albicans, C. glabrata, Candida parapsilosis, Candida tropicalis, Candida krusei* and *Candida guilliermondii*) and fluconazole, voriconazole and the echinocandins (Table 1 - next page) have been described in detail in three recent publications (7-9).

The CLSI sub-committee has voted on and approved these breakpoints (personal communication, S.R. Lockhart). South African clinical laboratories should use these updated breakpoints to interpret AFST results. The CLSI sub-committee has previously published non-species-specific breakpoints for flucytosine and itraconazole; these may also be revised in future. In the absence of breakpoints for other *Candida* species and antifungal drugs, epidemiological cut-off values (ECVs) may be helpful to identify isolates that are less likely to respond to antifungal treatment due to acquired resistance (Table 1). ECVs are MIC threshold values that allow separation of wild-type strains (with no mutations conferring resistance) from non-wild-type strains and provide a sensitive means of measuring the emergence of strains with reduced susceptibility. Although the *in-vitro* antifungal susceptibility profile is useful, it is only one factor that influences the outcome of a *Candida* bloodstream infection; factors related to organism virulence, host immune response, PK/PD and drug interactions also play an important role. This complex interplay explains the "90-60" rule where a *Candida* bloodstream infection may respond to an antifungal drug in only 90% of cases if the isolate is susceptible to that drug *in-vitro* and in up to 40% of cases if the isolate is resistant.

References

1. Gudlaugsson et al.. *Clin Infect Dis* 2003;37:1172-7.
2. Zaoutis et al. *Clin Infect Dis* 2005;41:1232-9.
3. Parkins et al. *J Antimicrob Chemother* 2007;60:613-8.
4. Clinical and Laboratory Standards Institute (CLSI). Reference Method for Broth Dilution Antifungal Susceptibility Testing of Yeasts 2008. 940 West Valley Road, Suite 400, Wayne, Pennsylvania, USA.
5. EUCAST Antifungal Agents. Available from http://www.eucast.org (accessed 30 August 2012).
6. Pfaller et al. *J Clin Microbiol* 2012;50:2846-56.
7. Pfaller et al. *Drug Resist Updat* 2011;14:164-76.
8. Pfaller et al. *Drug Resist Updat* 2010;13:180-95.
9. Pfaller et al. *Diagn Microbiol Infect Dis* 2011;70:330-43.

Table 1: Epidemiological cut-off values and breakpoints for five common species of *Candida*

Organism	Antifungal agent	ECV* (µg/ml)	Clinical breakpoint (µg/ml)			
			S	SDD	I	R
Candida albicans	Amphotericin B	≤2				
	Flucytosine	≤0.5				
	Fluconazole	≤0.5	≤2	4		≥8
	Itraconazole	≤0.12	≤0.12	0.25-0.5		≥1
	Posaconazole	≤0.06				
	Voriconazole	≤0.03	≤0.12		0.25-0.5	≥1
	Anidulafungin	≤0.12	≤0.25		0.5	≥1
	Caspofungin	≤0.12	≤0.25		0.5	≥1
	Micafungin	≤0.03	≤0.25		0.5	≥1
Candida glabrata	Amphotericin B	≤2				
	Flucytosine	≤0.5				
	Fluconazole	≤32		≤32		≥64
	Itraconazole	≤2				
	Posaconazole	≤2				
	Voriconazole	≤0.5				
	Anidulafungin	≤0.25	≤0.12		0.25	≥0.5
	Caspofungin	≤0.12	≤0.12		0.25	≥0.5
	Micafungin	≤0.03	≤0.06		0.12	≥0.25
Candida parapsilosis	Amphotericin B	≤2				
	Flucytosine	≤0.5				
	Fluconazole	≤2	≤2	4		≥8
	Itraconazole	≤0.5				
	Posaconazole	≤0.25				
	Voriconazole	≤0.12	≤0.12		0.25-0.5	≥1
	Anidulafungin	≤4	≤2		4	≥8
	Caspofungin	≤1	≤2		4	≥8
	Micafungin	≤4	≤2		4	≥8
Candida tropicalis	Amphotericin B	≤2				
	Flucytosine	≤0.5				
	Fluconazole	≤2	≤2	4		≥8
	Itraconazole	≤0.5				
	Posaconazole	≤0.12				
	Voriconazole	≤0.06	≤0.12		0.25-0.5	≥1
	Anidulafungin	≤0.12	≤0.25		0.5	≥1
	Caspofungin	≤0.12	≤0.25		0.5	≥1
	Micafungin	≤0.12	≤0.25		0.5	≥1
Candida krusei	Amphotericin B	≤2				
	Flucytosine	≤32				
	Fluconazole	≤64				
	Itraconazole	≤1				
	Posaconazole	≤0.5				
	Voriconazole	≤0.5	≤0.5		1	≥2
	Anidulafungin	≤0.12	≤0.25		0.5	≥1
	Caspofungin	≤0.25	≤0.25		0.5	≥1
	Micafungin	≤0.12	≤0.25		0.5	≥1

Table adapted from reference (5)]; ECVs, epidemiological cut-off values (*values reported are for wild-type strains); S, susceptible; SDD, susceptible dose-dependent; I, intermediate; R, resistant.

What has ICSSA been up to?

ICSSA has convened a small working group which aims to identify and discuss areas of concern in infection prevention and control, and to ensure that progress is made towards resolving the problems. The membership is relatively loose (anyone who wants to be involved is welcome to approach Lesley or myself), with representation from public and private sectors, and from most provinces nationally. We meet by teleconference every 3 months or so, as well as by email when necessary.

There has been a lot of discussion around the best measures to use if doing surveillance for infections in hospitals. The recommendation from the group is that we should be measuring infection events (as opposed to number of patients who develop an infection) per 1000 patient days. Clearly the ability to do ongoing surveillance for infections is very dependent on staff availability and time, but if it is being done, at a minimum the events that should be reported should be ventilator associated pneumonia (VAP), catheter associated urinary tract infection (CAUTI), surgical site infection (SSI) and central line associated blood stream infections (CLABSI)(the 4 infections targeted by the Best Care Always interventions). Remember, to be able to have accurate rates, you have to count your devices daily. Total number of infection events can also be recorded and reported, but this should be in addition to the individual events listed above, not instead of. Briette du Toit in particular has been very involved in trying to draw up a guideline for surveillance in the Sout African setting – those of use asked to review and comment on the document have been daunted by the amount of work involved. We hope to have this available as a resource in the near future.

We have developed a "patient transfer form" to be used if a patient known to be colonised or infected with a multi-resistant organism is transferred from one healthcare facility to another (including nursing homes, chronic care centres etc). It is being introduced in the private hospital groups, and we will be presenting it to the Western Cape Provincial Infection Control Committee to hopefully introduce to the public sector as well. The document is available as a resource on the ICSSA page of the FIDSSA website.

I am sure most, if not all of you were involved in the national core standards audit that happened late last year. Although there were some items on the audit list that were inappropriate, it was good to see that infection prevention and control elements were a strong component of the audit. One of the questions in the audit that has raised some discussion revolved around fit-testing for respirators (the N95 masks) used for TB infection control. Fit-testing is becoming increasingly recognised as an crucial element in TB infection control, and hospitals are encouraged (and even urged) to provide fit testing for staff who are required to wear respirator masks. It is difficult as not many people have the training or expertise to perform fit testing; the equipment needs to be procured (or borrowed); and it is only possible to do properly if there are a range of masks available in the hospital to be fit tested.

The other issue raised in the audit related to the provision of ultraviolet germicidal irradiation. While there is some evidence to support UVGI, there is also a lot of controversy round the best application and maintenance of this technology, and there is currently a moratorium on the installation of UV lights until proper guidelines and protocols have been established

There is a new resource on the BCA website – "Prevent Ventilator Associated Pneumonia" from the Canadian organisation Safer Healthcare Now! They have revised their adult VAP bundle elements,

and also have a paediatric VAP bundle. Watch out for the next newsletter for some discussion of the proposed changes.

Some news from the Eastern Cape:
In November 2010, the Infection Control Society of the Eastern Cape was re-established under the leadership and guidance of Deputy Nursing Manger, Linda Schlebusch from Netcare Greenacres Hospitals. An interim committee was also formed. In 2011 various training activities covering antibiotic stewardship, hand hygiene, isolation precautions and Best Care Always we offered. This year, five training days have been held covering topics such as hand washing, IV line management, TB, wound care, biofilms and antimicrobial resistance, attended by a total of 160 people.

In August 2012, the Committee accepted a new Constitution and continues to be Netcare driven. One of the future goals is to establish a forum that is representative of all the stake holders in the Eastern Cape.

One of the first OXA-48 (oxacillinase-type carbapenemase) Enterobacteriaceae isolates in South Africa was identified in Port Elizabeth in early 2012. Subsequently, seven other carbapenemase producing Enterobacteriaceae, of which six had an OXA-48 genotype, were identified by the Ampath Laboratories in Port Elizabeth. Fortunately no outbreaks due to this multi- resistant organism have occurred thus far, and the presence of the organism has been effectively managed by the microbiologist and the facility involved.

Lastly, a reminder about the FIDSSA congress next year, which will also be the site of ICSSA's AGM. I will be standing down as president next year, as per the ICSSA constitution, and am urging everyone to think about who should be the next president.

As always, if you have any comments / suggestions please contact either Lesley Devenish (Lesley.Devenish@netcare.co.za) or myself (Andrew.whitelaw@uct.ac.za).

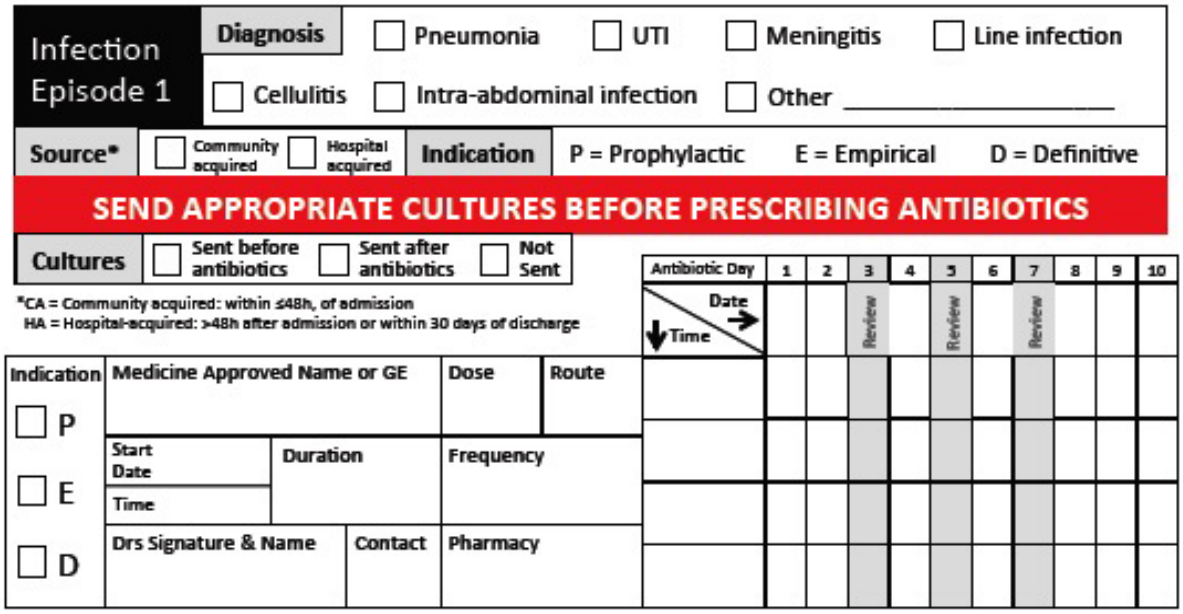
The Antibiotic Stewardship Programme at Groote Schuur Hospital - Just one of many ways to skin a cat…

In the March edition of the FIDSSA Quarterly, we reported on the 1st South African Antibiotic Stewardship Programme (SAASP) Conference, which was held in Sandton, Johannesburg in February 2012. The aim was that individuals would take back ideas to their respective hospitals and clinics and start to put these into effect, in order to promote a return to rational antibiotic prescribing. There are many ways to skin a cat, but what follows is a description of the antibiotic stewardship programme (ASP) at Groote Schuur Hospital (GSH), and some problems that we have found in rolling out our activities.

GSH, the tertiary level academic teaching hospital of University of Cape Town, has around 850 beds and offers the full gamet of medical, surgical, psychiatric, obstetric and trauma services, common to most such hospitals. In addition, it consists of a number of quaternary units. There is an increasing number of ESBL-Gram negative infections within the hospital and a heavy reliance on colistin in the ICUs. Furthermore, deaths are occuring from multi-drug resistant Gram-negatives and units have

Our ASP comprises multi-disciplinary antibiotic stewardship (AS) ward rounds, a dedicated antibiotic prescription chart, and a web-based set of learning tools for health care staff. The core of our AS ward round team consists of an ID physician, microbiologist, IPC sister and ward pharmacist. Critical to the success of the rounds are representatives of the clinical teams looking after the patients (usually a medical registrar) and nursing staff. We currently conduct weekly rounds on 3 general internal medicine wards, and 2 surgical wards (general surgery and hepatobiliary/vascular). Even with input from members of the medical and surgical teams, these ward rounds are time-consuming if they are to be instructive and transfer skills to those attending. However, we have seen a definite reduction in the amount of antibiotics prescribed and have identified common problems in prescribing. These include an extremely low-threshold for prescribing ceftriaxone to all patients entering the EU with a fever, irrespective of the focus of infection, a standard duration of 2 weeks for all prescriptions, dosing errors such as reducing the dose of ceftriaxone in renal dysfunction and incorrect dosing frequency, again for ceftriaxone. By taking time to teach on the AS rounds and challenging doctors to explain their choices and reasoning, we have been able to affect change and in the process, learnt much from those we ourselves are teaching. The other main benefit of rounds is our ability to concentrate on IPC as well. Urinary catheters are removed and a quicker switch to oral antibiotics ensures iv lines come out timeously. The main challenge in rolling out AS to a hospital such as GSH is coverage and the rapid turnover of staff, ensuring that we have to start again every 3 months.

The rationale behind the antibiotic prescription chart (available at www.fidssa.co.za/A_relatedSites_AStewardship.asp) is to make the prescriber ask a series of questions that will force an appraisal of why they are prescribing, jog their memory to send appropriate cultures before prescribing and set up a series of review steps during the course of antibiotics that will promote timely cessation of the antibiotic. It also facilitates audit. By dividing the chart into 'infection episodes' the reason for antibiotic prescription during the hospital stay becomes evident. A patient may be admitted with pneumonia (infection episode 1), but develop a hospital-acquired UTI (infection episode 2). The prescriber must indicate whether the infection is community- or hospital-acquired, allowing us to track where MDR-bacteria originate. The challenges we have faced include getting junior doctors to fill in the chart properly and for nursing staff to cope with another chart. Stapling the chart to the regular medication chart ensures it is not lost. Monitoring and evaluation are again, time-consuming



Instead of rolling out the prescription chart to the entire hospital, we have elected to rollout in phases. We have found that unless there is constant re-inforcement and a physical presence on the ward/unit, then the chart is not used correctly. Nowhere is this more evident than in the EU, where the shear volume of patients and rapid turnover of doctors means that anything superfluous to need falls by the wayside. As with the spin-offs for IPC, having a physical presence in these units has secondary benefits for patient care and we are able to co-manage ID patients early than we would otherwise.

Despite the various challenges, the introduction of an ASP at GSH has already had benefits, even after only 6 months of ward rounds and 1 month of chart use. We will be presenting our results in full at the 2nd SAASP Conference, which will take place as a pre-congress event before next year's FIDSSA conference.

Conference Watch - Pathpoint 2012

fidssa federation of infectious diseases societies of southern africa

This year's Federation of South African Societies of Pathology (FSASP) conference, Pathpoint 2012 will take place in Cape Town from the 28th to 30th September. The theme of the congress is "Driving innovative solutions for affordable health in Africa". This is a special event as the conference will be held in partnership with the Association of Pathologists of East, Central and Southern Africa (APECSA) and we look forward to welcoming our colleagues from the rest of Africa who will be joining us for the first time in more than a decade.

The conference will have a strong focus on laboratory management and on the importance of laboratory medicine services for clinical medicine and patient safety. A number of diagnostic companies will participate in the exhibition, which promises to showcase the latest diagnostic tools available in Africa.

The microbiology program in particular offers an exciting program with eminent overseas and local speakers and almost 50 submitted research presentations. Key speakers include Dr David Persing from Cepheid, USA (responsible for development of the GeneXpert system) speaking on turning real time PCR into real time results, Professor David Murdoch from New Zealand discussing pneumonia diagnostics, and Professor Richard Tedder from the Health Protection Agency in the UK discussing critical aspects of chronic hepatitis. A lively debate on the topical issue of point of care testing for syphilis will be conducted between Professors David Lewis and Anwar Hoosen. The full programme, which includes ethics presentations, should appeal to microbiologists, virologists, immunologists and infectious disease practitioners.

Further details are available on the conference website. http://www.pathconference.com. The closing date for registration is officially 27 August. The conference is also timed to precede the International Association of Pathologists (IAP) meeting, which will take place from 30 September to 5 October also in Cape Town.