

1997 AICA Conference Report

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ABSTRACT

The 11th National conference of the Australian Infection Control Association was held in Melbourne – May 7-9, 1997. As the recipient of the AICA scholarship A, I attended the conference and this is a report of the conference proceedings. The conference included many interesting, varied and topical subjects. This report consists of the highlights of information presented, divided into subject areas – staff occupational health issues, multi-resistant organisms, rare infectious diseases, and surveillance. The results of an Infection Control Practitioners survey were also presented.

OCCUPATIONAL HEALTH ISSUES

The conference began with an early morning session on safety in the healthcare setting. 1996 was the first full year of reporting from the national database for monitoring of occupational exposures with the EPINet data base, with 27 hospitals and one community agency participating. The data was presented by Dr John Kaldor from the National Centre for HIV Epidemiology and Clinical Research. There were no reported transmissions of HIV, HBV, or HCV during the period. However, of concern was the low reported rate of prophylaxis being offered, and follow-up testing rates at 3 months was only 25%. There is thus a need for follow-up and further impetus to raise standards in this area. Most commonly reported exposures were: hollow bore needles 3 per 100 FTE, other percutaneous exposures – 2 per 100 FTE, and non-percutaneous exposures – 1 per 100 FTE (most common was blood splashed to eye). The most common procedure causing exposure was IM and subcutaneous injection (45% of exposures), followed by suture needles (13%) and butterfly needles (7%). 36% of exposures occurred during use, 31% immediately after use, and 13% at disposal.

Fiona Cheney from Flinders Medical Centre spoke on needle stick injury prevention in practice. She emphasised the need for efficient, cost effective and safe practices. Fiona reminded us that education is not enough, safe products are

important and the elimination of needles wherever possible is important. Best practice would include the achievement of reduced potential for needle stick injury, reduced exposure and rapid follow-up management. Interlink, an IV needle-less access system was introduced at FMC in 1995 and changes were monitored for 12 months. Results showed a dramatic 90% reduction in IV needle stick injury, reduced IV access time/management time and a reduction in sharps container usage. Surprisingly, the introductory cost of Interlink was half the amount expected.

Dr Janine Jagger from the University of Virginia and the 'mother' of EPINet, examined the epidemiology of percutaneous injuries in HCW and the implications for prevention in hospitals. (Australian figures are similar to annual figures from USA). Her main point was that 81% of sharps accidents are preventable because they involve sharps used with equipment. She outlined the CDC risk factors for HIV transmission. USA figures for frequency of exposure list nurses first, followed by venipuncture staff. Hierarchy of exposure frequency is not mirrored in the hierarchy of risk of disease transmission. In other words, the most frequent needle-stick injuries were from solid bore non-blood filled devices (78%), whereas only 22% were from high risk bloodfilled hollow bore devices. Dr Jagger summarised strategies for the prevention of percutaneous injury in the operating room. These included the increase in the usage of blunt suture needles, alternative skin closure methods and scalpel blade injury prevention by the use of sliding shield, for example. Dr Jagger encouraged the speed of transition to a state of no risk, and that we should not accept cost objections.

Other health care issues included susceptibility to chickenpox. Dr Mark Veitch, from the University of Melbourne, presented a study on the screening of 680 University health care students for chickenpox by history and serology. He found that over 10% of the students were susceptible to chickenpox, almost all those who claimed to have had chickenpox were immune, and that over half with

no definite recall of prior chickenpox were in fact immune. Serological testing of persons with no history of past chickenpox will identify 90% of susceptibles, who can be advised of their status and considered for vaccination in the future. His recommendations included: 1) screening by history, and testing of those with no or uncertain history and 2) serological testing of staff in settings such as oncology or intensive care, who have no history of past chickenpox.

Tuberculosis and the HCW was addressed by Lindsay Grayson from Monash Medical Centre who described the Dandenong Hospital Mantoux screening programme. A Melbourne-wide Mantoux study is to be conducted during 1997-1998, with 6,000 to 8,000 employees taking part. Its aim is to identify any excess risk experienced by HCW over other hospital employees in terms of potentially acquiring tuberculosis and to identify the possible confounding factors that may influence the interpretation of the Mantoux test and to redefine what a positive Mantoux result means. The results will help provide appropriate investigation/treatment guidelines for managing Mantoux reactive HCWs.

MULTI-RESISTANT ORGANISMS

Dr Adrian Duse from Johannesburg Hospital in South Africa spoke on the challenges of combating nosocomial infection and multi-drug resistant pathogens in South Africa, where there are contrasts between first and third world medicine. The Johannesburg Hospital, a modern 900 bed hospital has an assumed 15 % rate of nosocomial infections with enormous costs to the economy. The increased costs of medical care, adverse reactions to antibiotic agents and the selection of resistant bacteria are good reasons for concern about the inappropriate use of antimicrobial agents. There is an increase in the occurrence of resistant organisms and Dr Duse reported such isolates as multi-drug resistant pneumococci, penicillin-resistant meningococci multi-resistant *Staphylococcus aureus*, multi-resistant shigella, vancomycin-resistant enterococci and others. Dr Duse has established the 'antibiotic mafia' in his hospital, whereby medical staff must justify the use of antibiotics. His final words were extolling us to work hard but smart at preventing infection and reminding us of a role to prevent rather than cure.

Tanya Nicholls an ICP from Auckland Hospital in New Zealand gave a trans-Tasman perspective of methicillin-resistant *Staph. aureus*. She observed a marked increase in incidence of MRSA (resistant to penicillin and methicillin only) in 1996 which had doubled from 1995. The majority of cases were found to be presenting from the community, particularly the Pacific Islander group, with infected abscess or boil with no previous hospitalisations. Strategies to address these issues include screening all patients with a past history of hospitalisation overseas in previous six months, education of health care workers and patients on modes of transmission of the organisms and the importance of Standard Precautions. She feels that a re-focus on infection control prevention strategies was the most cost effective measure.

Innovative methods to reduce the incidence of MRSA in acute care settings are eagerly sought and Paul Marshall of Sutherland Hospital in NSW reported on a 6 month trial looking at the effect of using triclosan body wash on the incidence and distribution of MRSA in a community hospital. Results indicated the incidence of MRSA decreased significantly by 5%, with a major decrease in surgical wound infections and ulcers. There was also an increase in ciprofloxacin sensitivity of MRSA following the trial period when triclosan was continuing to be used. Therefore, using triclosan body washes prior to admission and continuing for

the duration of the patient's admission appears to be effective in reducing the pool of MRSA in the hospital.

RARE INFECTIOUS DISEASES

In November 1996, a Queensland woman developed encephalitis and died after being bitten and scratched by flying foxes. A newly identified lyssavirus was identified as the cause of her illness. Lyssaviruses are a group of multiple strains of viruses related to, but distinct from, the classical rabies virus. 6 types of lyssavirus are known with 5 occurring in bats. Shirley Priest from the Central Queensland Public Health unit described the process involved in dealing with this unusual virus. The recommendations to prevent infection are to avoid exposure wherever possible, or undertake pre-exposure vaccination (3 dose regime) if occupationally or recreationally exposed to bats. Post-exposure measures include thorough washing with soap and water of bite or scratch wounds to prevent infected saliva travelling up the nerves followed by administration of rabies immunoglobulin and a 4 dose regime of rabies vaccination.

Dr Duse introduced the subject 'Out of Africa - Ebola Fever', stating that such rare or newly emerging diseases are likely in Australia in the future due to the rapid movement of people between countries. South Africa has experienced their first case of Ebola disease and the first death in the urban setting. The patient was a registered anaesthetic nurse who cared for a patient with a pyrexia of unknown origin. The patient had been in Zaire prior to admission. There were 400 contacts from this initial case. Ebola is a serious viral febrile disease related to Marburg virus and known also as viral haemorrhagic fever. In 1976 in the Ebola river district of Zaire and Sudan an epidemic occurred with a 85% mortality rate. A further epidemic occurred between 1994 and 1996. There is no known animal reservoir. The disease is characterised by an abrupt onset of fever and frontal headache, a maculopapular type rash on 3rd or 4th day, and extensive bleeding from 5th and 6th day from mucous membranes, haematemesis, and epistaxis caused by platelet defects.

Transmission is by exposure to blood and body fluids. Interestingly, the virus can survive in dried blood for up to 14 days in summer temperatures so that corpses are infective up to 14 days after death. Patients with viral haemorrhagic fevers are nursed with Additional Precautions, including the use of single room or cohort where necessary, impervious clothes to prevent viral strike through and sometimes the use of light weight respirators. For Ebola there is no effective treatment - the only single protection you have is intelligent Infection Control.

SURVEILLANCE

The Keynote speaker on this topic was Dr Raf Mertens of the Institute of Hygiene and Epidemiology - Belgium, who gave two very informative presentations: "National Surveillance systems: constraints, opportunities and challenges", and "Can we compare results from surveillance?". Dr. Mertens described the national surveillance system in Belgium, to which 5 major hospitals are contributing data. Confidentiality is maintained, feedback is provided and hospitals are advised to correct situations if indicated. The main objective of surveillance is Quality Assurance. It is important that measures are reproducible and objectives and definitions of the system are standardised, i.e. consistent, in order to classify groups of patients according to risks. Knowledge of the significance of the data is required to improve practices.

The Hospitals in Europe link for Infection Control through surveillance (HELICS) was formed in 1985 to promote quality

assurance by means of standardised epidemiological evaluation of healthcare processes and outcome indicators. The objectives of HELICS are to obtain consensus on surveillance, apply common methods locally, share results and experience, interpret results and improve local quality of care. His central message on surveillance was: how can you improve quality of patient care if you don't measure it first? Dr Mertens later spoke on comparing results from surveillance. The reasons for variations in practice include complexity, lack of valid clinical knowledge, subjective judgement or uncertainty, and human error. Obstacles noted are differences in case mix, differences in risk factors, observation time, and surveillance methods. The first things to tackle are agreement on the standard method of surveillance and data validity.

Examples he gave of good methods of surveillance are

- MRSA prevalence by hospital size
- antibiotic prophylaxis surveys
- surgical wound infections – risk factors: wound classification, ASA score, and operation type.
- specific intensive care surveillance

Tools must be available, ie. Software, to examine one's own data first and share information with others. User groups can be developed and national and statewide groups can look at surveillance on those levels. There is currently a South Australian Nosocomial Surveillance Task Force investigating methods of collecting statewide data for comparative purposes. A national data base would be a wonderful goal to aim towards.

INFECTION CONTROL PRACTITIONERS – Who we are, what do we do, and where are we going?

The results of a National survey conducted by Cathryn Murphy and Mary-Louise Mclaws of AICA members were presented, drawing a profile of current ICP's. The typical Australian ICP was found to be a woman aged between 35 and 40 years of age with 5 years experience, on average, responsible for 145 beds. Only 1/3 felt competent to deal with all aspects of the job, and only 1/2 use a personal computer routinely, the majority do not undertake research. However, the ICP profile is changing and emerging ICP's are likely to be computer literate, highly educated, and research oriented.

Conclusions were that it is imperative that professional associations address factors limiting the ICP's effectiveness, such as a lack of standardisation in practice and surveillance, and a lack of adequate training and should foster encouragement of research initiatives

SUMMARY

The advances in methods of surveillance from around the world provide Infection Control Practitioners with food for thought on how to strive to improve our practice and cooperate within local, state and national levels to achieve the best outcomes. Knowledge relating to multi-resistant organisms, emerging and rare infectious diseases will assist in planning and delivering care to patients affected and planning strategies for Infection prevention and control. The variety of subjects covered in the conference will hopefully encourage Infection Control Practitioners to continue to explore and develop these areas with the aim of improving their practice and the service provided. I extend my thanks to AICA for providing me with the opportunity to attend this stimulating conference.



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