

Antibiotics Chemotherapy



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The SARS health scare

On 5 July, the World Health Organization (WHO) announced the removal of Taiwan from its list of areas with recent local transmission of severe acquired respiratory syndrome (SARS). Continued global vigilance is crucial. Is the world truly SARS-free?

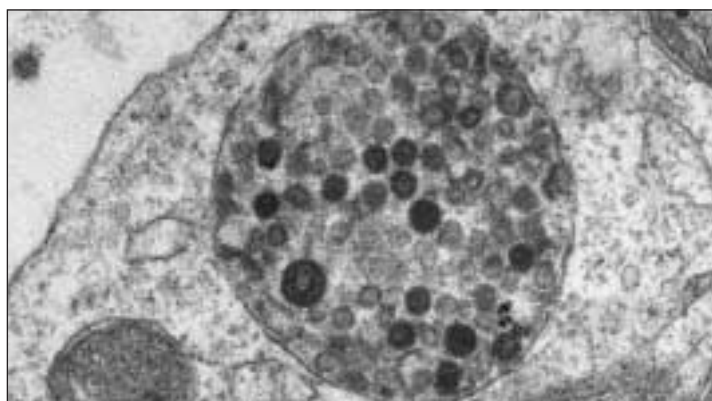
The SARS epidemic first started in November 2002 in Guangdong, China and by 16 June 2003 had affected 8460 patients, causing 799 deaths. China, Hong Kong, Taiwan, Singapore and Canada were the worst affected countries.

Collaborative strategies

Since the WHO issued its first global alert on SARS, the wealth of information amassed over a relatively short time period was truly impressive. This apparently successful effort to contain the deadly infection is evidence of what can be achieved when nations work collaboratively and share information. It would seem that basic and simple public health strategies were sufficient to contain, prevent and eliminate SARS. The efforts made to implement these measures, however, have been enormous.

A few meetings were held in Southeast Asia initially, to endorse procedures to combat SARS jointly, i.e. measures to standardize screening of all travellers, and isolate and treat SARS cases. This common strategy serves as a model for responses in combating specific new infections and emerging diseases.

The aetiological agent of SARS is a novel coronavirus. This identification was made



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The severe acquired respiratory syndrome virus.

possible through a broad-based, multidisciplinary effort involving clinical, epidemiological and laboratory investigations coordinated via an international network.^{1,2} The name Urbani SARS-associated coronavirus has been proposed for the virus.

At the WHO Global SARS conference held in Kuala Lumpur, Malaysia in June, Professor Malik Peiris from Hong Kong described how he isolated the virus in monkey kidney cell cultures and later showed that patients with SARS produced antibodies to the virus.

Transmission

The disease is most likely to be transmitted via droplet secretions and close contact. There is not much evidence for the role of fomites, even though studies have shown that the virus can remain viable for over 24 h on inanimate surfaces. Survival on glass may be as long as 72 h and in faeces up to 96 h. Actual transmission via aerosol has not yet been fully established.

The outbreak at the Amoy Gardens complex in Hong Kong appears to be an exception to the usual mode of transmission of the SARS virus. After a very thorough investigation, the Hong Kong authorities came to the conclusion that the spread was unique and due to an unusual combination of factors. There was a breakdown of the sewage treatment plant in the complex and it appeared that contaminated sewage was drawn through the bath drains into the bathrooms in two blocks of apartments. This is possible because the bathrooms are small and are fitted with powerful extractor fans, thus creating a negative pressure inside the bathrooms. The U-traps, which would normally have prevented such backflows, were unfortunately dry during that crucial period because of an interruption to the water supply.

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Transmission occurs primarily in hospitals, where healthcare workers were frequently infected. In Hong Kong and China the proportion of healthcare workers among those infected was around 20%, but in Singapore and Toronto the proportion was nearly 40%. In one Hanoi hospital the attack rate among doctors was 16%, among nurses 35% and among other staff 53%.

The role of animals in transmission is currently being investigated. In Guangzhou there appeared to be some clustering of cases among animal handlers and in those who lived near markets. The virus has been found in some palm civets and a raccoon dog, but it is still too early to ascribe them a reservoir role. Pigs and poultry do not appear to be associated with the virus.

Clinical phases

The incubation period of the disease appears to be fairly

consistent, with a maximum of 10 days. Clinically, it is a triphasic disease. The illness presents with systemic symptoms such as fever, chills and rigors, which represents the phase of viral replication. The second phase is an immune response, where raised cytokine levels can be demonstrated. Lung damage occurs during the third phase, most likely as a result of the immune response. The most common extrapulmonary manifestation is diarrhoea, which is watery and may be of sufficiently large volume to cause dehydration and electrolyte imbalance. About 40% of patients in Hong Kong presented with or gave a history of diarrhoea and the presence of diarrhoea is often associated with more severe illness.

Lymphopaenia is a consistent blood finding. Both the T4 and T8 counts are reduced, but the helper T cells appear to be unaffected. Bleeding time and APTT are often raised and

thrombocytopenia is also a common finding. Liver function tests are abnormal in about 50% of patients. The mortality rate appears to vary between 6% and 15% and the reason for this is still unknown. However, the elderly, males, and the presence of co-morbidities are associated with increased mortality.

Laboratory diagnosis

Laboratory diagnosis is still in its infancy and there are no testing standards. Viral shedding in respiratory secretions and stools may occur in the first week of disease and the virus may be cultured or detected using polymerase chain reaction (PCR). Viral culture has a low sensitivity. PCR appears specific but is also relatively insensitive. Seroconversion begins after 10 days but patients may be antibody negative for up to a month. Antibodies may be detected using immunofluorescence (IF) or enzyme linked immunosorbent assay (ELISA). IF may be positive after Day 10, but ELISA is only positive after Day 20. Currently, negative laboratory results have no significance in terms of clinical management.

Treatment

There is as yet no definitive treatment for SARS. The effectiveness of ribavirin is unproven and *in vitro* data indicate insufficient activity to warrant clinical use. A major collaborative effort is being made with scientists from the US Centers for Disease Control and Prevention, the National Institutes of Health, and US Army researchers collaborating to identify potential SARS virus inhibitory drugs. No useful treatments have yet been found and antibiotics are ineffective. Even the use of steroids is controversial. Good supportive care appears to be the mainstay of current treatment. The roles of immune serum, immunomodulators and anti-thrombotic agents require further study.

There is currently no vaccine. Prevention of nosocomial transmission rests in good

standard infection control measures. Droplet and contact precautions are the primary preventive measures. In a case-control study conducted by Dr Wing-Hong Seto in Hong Kong on transmission among healthcare workers, the only significant protective factor was the use of masks. Surgical masks appeared to be as effective as N95 masks but paper masks are useless. High-risk procedures include difficult intubation, extensive bagging, gross contamination, intubation in general wards and the use of high flow oxygen (15 l/min).

The future

Much has been learnt but there are still many more unanswered questions. As Dr Shigeru Omi (Director of the WHO Western Pacific Region) said, this is just the end of the beginning of SARS. The pandemic seems to be coming under control but the fight continues. We require better surveillance, more transparent information sharing and action at local, national and international levels. The keyword is preparedness and hopefully, should SARS return, more nations will be in a better position to meet the challenge. ■

VKE Lim

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Note: The First WHO Global Conference on SARS was held in Kuala Lumpur, 17–18 June 2003. The proceedings of the conference are available on the WHO website: http://www.who.int/csr/sars/conference/june_2003/materials/en/

References

1. Ksiazek TG, Erdman D, Goldsmith CS, Zaki SR, Peret T, Emery S *et al.* A novel coronavirus associated with severe acute respiratory syndrome. *N Engl J Med* 2003; **348**: 1953–1966. (Epub 2003 Apr 10.)
2. Drosten C, Gunther S, Preiser W, van der Werf S, Brodt HR, Becker S *et al.* Identification of a novel coronavirus in patients with severe acute respiratory syndrome. *N Engl J Med* 2003; **348**: 1967–1976. (Epub 2003 Apr 10.)

Control measures in SARS

- Isolation of all suspected/probable cases in negative pressure isolation rooms with HEPA-filtered air (continuous monitoring). Separate bathrooms and ante room (two doors separating patients from the rest of the hospital). This is ideal but if not available, as is the case in many hospitals, a single room with an extractor fan appeared to be as satisfactory. The central air conditioning should be turned off. Where single rooms are not available, cohort nursing is practised but the space between beds should be at least 2 m and very strict droplet and contact precautions observed at all times.
- No visits or very restricted visits by family members.
- Strict infection control practices: written guidelines, education, pictures and demonstrations, particularly for droplet and contact precautions.
- Equip all healthcare workers with enhanced protective equipment against airborne/fomite transmission.
 - N95 or greater filtration masks with tight fitting seals, later using goggles rather than glasses and carefully fitted masks. (A case control study in Hong Kong had shown that three-ply surgical masks are as effective as N95 masks.)
 - Disposable second layer of protective clothing (discard before workers leave ante room).
- Handwashing, barrier precautions, gowns, gloves, mask, eye protection.
- Active surveillance of exposed healthcare workers and contacts of patients. Body temperature should be monitored several times a day.
- Infection control nurses monitored for absenteeism due to illness.
- Contacts of patients (suspected and probable cases), i.e. healthcare workers, family, and 'airline' passengers three rows on all sides, should be quarantined at home.

The SARS outbreak in Singapore: dodging a bullet but at great cost

The severe acquired respiratory syndrome (SARS) virus entered Singapore at the end of February 2003 via a group of Singaporean travellers who had stayed at the ill-fated Hotel M in Hong Kong. At the time, there was a heightened awareness of avian influenza in parts of the infectious diseases community. One of the returning travellers was isolated, she had SARS but did not transmit the virus. Unfortunately, another traveller was nursed in an open ward at a different hospital and a number of staff, visitors and fellow patients were infected. The hospital was closed to new admissions and patients who had attended that hospital were admitted to other hospitals in Singapore, triggering epidemics in three of them.

Who was infected?

The majority of individuals infected by the SARS virus were hospital staff, visitors, and patients in hospital for other reasons. The virus did, however, manage to spread into the community in two specific settings – one was a social group and the other, Singapore's largest wholesale vegetable market. Closure of this market led to considerable economic damages.

Preventative measures

Home quarantines were imposed on >2000 individuals in a bid to detect symptomatic individuals early and before they had a chance to spread the virus further. Drastic measures were instituted in hospitals when it was recognized that atypical cases, without the classic features described in the World Health Organization (WHO) surveillance definitions, could trigger

hospital epidemics. These included the universal use of N95 respirators in all ward areas, use of gloves and gowns and N95 masks for all patient contact, and the initial complete ban on all hospital visitors except to critically ill or paediatric patients. There were also widespread public education programmes and the near universal use of temperature taking by various means as a screening method to try and capture all possible cases of SARS. Any suspected cases were isolated and quarantined at a designated SARS hospital (the hospital where the first nosocomial outbreak occurred). Inter-hospital movements of patients and staff were severely restricted.

The control measures implemented were in line with a global effort spearheaded by the WHO and seem to have coincided with a decline in the incidence of SARS to zero worldwide by mid-June. Predictions of a global pandemic appear to have come unstuck. There is still concern that the disease will reappear in the next northern hemisphere winter as is often the case with other respiratory viruses.

The global response

The SARS epidemic was described as the first emerging viral infection of the 21st century. It triggered an appropriately global, technologically driven response that has been the envy of infectious disease physicians working with 'older' infections, such as malaria and tuberculosis (the last WHO global emergency). Singapore was part of the WHO laboratory network in which teams of scientists combined research to discover the cause of SARS and sequence its genome with breathtaking speed. Clinicians

The worldwide consequences of severe acquired respiratory syndrome (SARS)

Country	Number of cases	Number of deaths due to SARS
China	5327	349
Hong Kong	1755	300
Taiwan	665	180
Singapore	238	33
Canada	251	41
Vietnam	63	5
Rest of the world	123+	8

Data source: World Health Organization website (www.who.int/csr/sars/country/en/country2003_08_15.pdf). Accessed 27 August 2003.

at the SARS hospital in Singapore were also part of the WHO clinicians network that met virtually to share the clinical and epidemiological data vital to controlling this novel pathogen.

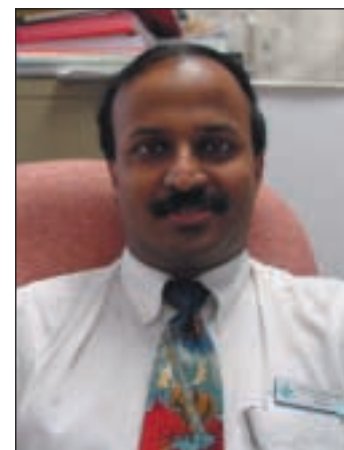
Unanswered questions

The disease seems to have retreated, but there are several questions that remain unanswered: basic virological issues such as the role of the environment in the transmission of the disease – is the virus airborne and if not, why are we using N95 respirators? What is the role of the immune system in the pathogenesis of the disease? Is there a role for the early use of immunomodulating therapy? Is the fact that the virus can be detected in stools late in the course of the illness clinically significant? What about asymptomatic or mildly symptomatic carriers? Where did the virus come from and can we really blame civet cats from southern China's exotic food markets? Governments throughout Asia are taking infection control seriously, some for the first time. Healthcare was previously thought of as a potential source of easy profits. It is now realized as a hazardous profession and something to be approached with extreme care and caution if we are to ensure that our hospitals are centres

of healing rather than sources of contagion. The deaths of three physicians and two nurses in Singapore brought the disease painfully home to all in the medical community.

The future

For scientists, clinicians, infectious disease physicians and hospital epidemiologists, SARS presents a huge challenge and an opportunity. We have a window in which to put our heads together to fully understand the virology, immunology, pathophysiology and epidemiology of this virus so that we can be better prepared should it appear again. ■



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Tom Bergan Memorial Awards at the 23rd ICC

This is the first Tom Bergan Memorial Award to be given at an International Congress of Chemotherapy (ICC). Tom Bergan (ISC Immediate Past-President) died 3 weeks after the 22nd ICC held in Amsterdam in 2001. This award has been established in his memory. He contributed much to the ISC since joining the Executive in 1985, and became Secretary-General and President. These awards are for the best posters presented at an ICC.

All three chosen posters reported dramatic findings. The Russian study showed the value of having a useful and informative website on antibiotic use, which receives almost a million hits a month. The study from South Africa described a remarkable reduction in malaria resulting from several adjustments to current practice. The study from India showed that in some areas, a dramatic switch in resistance of *Salmonella typhi* necessitated a rapid change in treatment policy. It also showed the need to establish a realistic breakpoint of *S. typhi* and quinolones.

First website on antimicrobial chemotherapy in Russia and the Confederation of Independent States of the former USSR

Antibiotics and Antimicrobial Therapy is a website (<http://www.antibiotic.ru>) for medical professionals and the general public. It was founded in 2000 under the auspices of the Institute of Antimicrobial Chemotherapy of the Smolensk State Medical Academy, the Scientific Research Centre on Monitoring of Antimicrobial Resistance of the Ministry of Health of the Russian Federation, and the Interregional Association for Clinical Microbiology and Antimicrobial Chemotherapy. Linux and Solaris operating systems are used for the organization of domains hosting www.antibiotic.ru, and the related database management systems

PostgreSQL and MySQL manage the website's content. All information on www.antibiotic.ru is available for unrestricted use, free of charge, and is based on the principles of good microbiology practice and evidence-based medicine.

The number of hits per month has increased about five-fold since the site was created. www.antibiotic.ru ranks 21st among 1398 medical Internet sources as rated by TopList-Medicine. There were 10 734 544 hits for the total period of site operation, and users from more than 90 countries regularly visit the website. The website is available in both English and Russian.

Since initiation of the website, it has hosted four full-text practical guides, 11 issues of the peer reviewed journal *Clinical Microbiology and Antimicrobial Chemotherapy*, 31 practical guidelines and information letters, 25 articles and presentations and abstracts from Russian and international conferences.

Many healthcare professionals and scientists helped create and develop the website, but the major role was undertaken by the following people from the Smolensk State Medical Academy¹ and the Institute of Antimicrobial Chemotherapy² (Russia):

- Professor Leonid S Stratchounski, Director²
- Dr Irina V Andreeva, Website Editor, Department of Clinical Pharmacology¹
- Dr Vladimir V Rafalski, Deputy Director²
- Dr Olga U Stetsiouk, Research Assistant²
- Boris B Makushkin, Information Technology Specialist²
- Vladimir A Kretchikov, student¹
- Alexander N Faraschuk, student¹
- Andrew S Andreev, Website Designer²

tests so that the tutors can assess the level of knowledge. Upon completion at every level, an intermediate examination is conducted (written and practical tasks). A total of 196 clinical cases and 710 control questions, which can be answered on-line, were designed. After successfully completing the final examination, healthcare professionals are awarded official certificates from the Ministry of Health.

Since implementation of the project, 71 doctors have been trained using DE technology to varying degrees.

Analysis of the number of correct answers given by students during their level tests and the final test revealed an increase in the number of correct answers. This confirms the effectiveness of the educational process. ■

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The homepage of the first website on antimicrobial chemotherapy in Russia and the Confederation of Independent States of the former USSR.

Distance education

In 2002 the first Internet-centre of distance education (DE) on antimicrobial therapy was established, with support from the United States Pharmacopoeia and United States Agency for International Development.

The programme consists of 29 topics and is divided into three levels. Every theme contains a study plan, educational materials (lectures, practical guidelines), control questions, tests and clinical cases. After successful completion of each topic, students are offered control



IV Andreeva.

Epidemiology of malaria following implementation of artemether-lumefantrine as first-line treatment of uncomplicated disease in KwaZulu-Natal, South Africa

Malaria morbidity and mortality in Africa is rising, principally as a result of increasing chloroquine and sulphadoxine-pyrimethamine (SP) resistance. In KwaZulu-Natal, South Africa, this increase was exacerbated by increased vector resistance to synthetic pyrethroids and reinvasion by the highly anthropophilic *Anopheles funestus*. There is growing international consensus that wide-scale systematic implementation of artemisinin-based combination therapy is one of the few measures that will enable malaria-endemic countries to achieve the ambitious goals set in Abuja to 'Roll Back Malaria', particularly halving malaria morbidity and mortality by 2010.

We evaluated the first programme-wide implementation of a malaria treatment policy change to an artemisinin-based combination in Africa. Malaria treatment in South Africa is initiated on the basis of a *Plasmodium falciparum* positive malaria smear or rapid immunodiagnostic card test. Artemether-lumefantrine (AL) was officially implemented for primary malaria therapy in KwaZulu-Natal's public health sector during January 2001. Quinine remains the recommended treatment for severe malaria, and uncomplicated malaria in pregnant women and infants under 1 year old. Implementing AL included face-to-face training of public healthcare providers and distribution of specific malaria treatment guidelines and wall-charts. This was followed by withdrawal of SP.

The *in vivo* therapeutic efficacy of AL was assessed with a 42-day follow-up. The polymerase chain reaction (PCR) was used to differentiate between re-infection and recrudescence by nested PCR amplification of blocks within genes for glutamate rich protein and merozoite surface proteins I and II. Parasitological cure rates at 42 days increased from 12% with SP monotherapy in 2000, to 99% with AL in the present study

($P = 0.004$). Early treatment failures decreased from 14% with SP to 0% with AL ($P = 0.0003$), late clinical failures decreased from 3% to 0% ($P = 0.10$), and late parasitological failures decreased from 71% to 1% ($P < 0.0000$). Prospective active surveillance for serious adverse events found no serious adverse drug reactions to AL.

During the 2000 SP *in vivo* study, 51% of study subjects were found to carry gametocytes 14 days after treatment with SP, compared with 0% following AL treatment ($P < 0.000$). No patients without gametocytes in peripheral blood smears on Day 0 developed gametocytaemia following AL treatment. The mean gametocyte area under the curve decreased significantly from 3898 (1652–6144) gametocytes/ μ l per person week following SP treatment to 31 (0–79; $P = 0.001$) gametocytes/ μ l per person week following AL treatment.

A retrospective record review of malaria-related hospital admissions and mortality was conducted at three sentinel hospitals. Malaria cases notified from the catchment areas of these hospitals accounted for 72% and 64% of all malaria cases notified in KwaZulu-Natal in 2000 and 2001,

respectively. Hospital admissions in these three rural district hospitals decreased by 90% from 8676 in 2000, to 905 in 2001. The notified malaria case fatality ratio for KwaZulu-Natal province decreased by 38% from 0.81% (2000) to 0.50% (2001), with a marked concurrent decline in malaria-attributable morbidity and mortality throughout the province (Figure 1).

To explore community malaria treatment-seeking behaviour and compliance, survey questionnaires were administered at 437 households and focus group discussions were held to facilitate a greater understanding of these community perspectives. The majority (93%) of patients who had suffered from malaria in the preceding 4 weeks had first sought treatment in a public sector healthcare facility, and self-reported compliance was 95%.

The implementation of AL for treating uncomplicated *P. falciparum* infection in KwaZulu-Natal provided significantly improved clinical and parasitological cure rates, reduced gametocyte carriage, and decreased malaria case fatality ratios. These benefits of ACT, together with the concurrent re-introduction of effective vector control in KwaZulu-Natal

and southern Mozambique, contributed to the marked decrease in malaria cases, hospital admissions and deaths observed. ■

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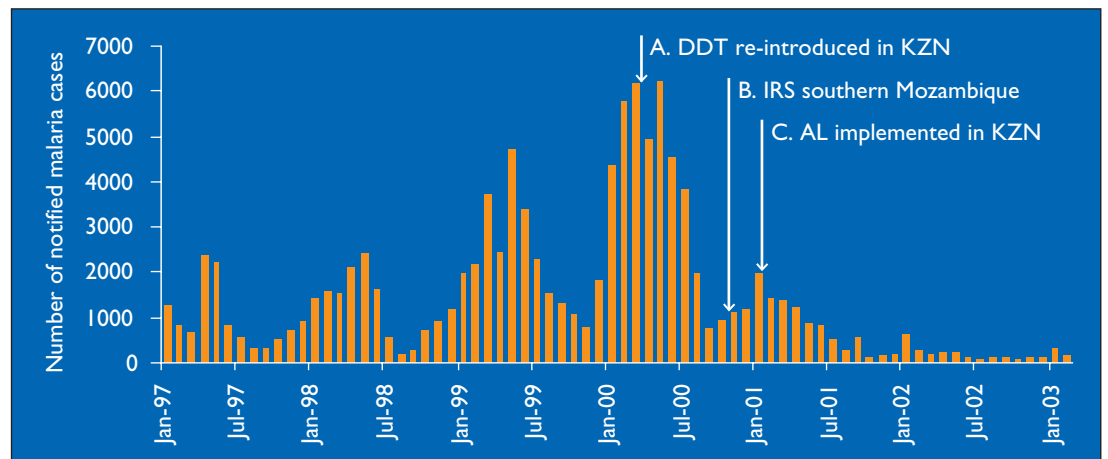


Figure 1: Number of notified malaria cases in KwaZulu-Natal (KZN) by month in relation to timing of significant malaria control interventions. (A): Re-introduction of DDT for Indoor Residual Spraying (IRS) of traditional structures in KwaZulu-Natal in March 2000. (B): Introduction of IRS in southern Mozambique in October 2000. (C): Implementation of artemether-lumefantrine (AL) for the treatment of uncomplicated *falciparum* malaria in KwaZulu-Natal in January 2001.

Ciprofloxacin therapy in typhoid in India needs retirement

Many Indian clinicians have observed poor responses to ciprofloxacin (personal observation) and a reduced minimum inhibitory concentration for ciprofloxacin has been reported.¹

Multi-drug resistant (MDR) *Salmonella typhi* has been prevalent in India² and neighbouring countries³ since 1989 and appeared as an epidemic form of typhoid. The pattern of MDR included resistance to the anti-typhoid drugs such as ampicillin, cotrimoxazole and chloramphenicol. The prevalence of MDR persisted until 1992, after which there was a decline from 66.7% in 1993 to 21.2% in 2001, and it was only 7% in 2002 (Figure 1).

In 1998/99, 46% of isolates were susceptible to ciprofloxacin at ≤ 0.25 mg/l but this decreased to 15% in 2002. There was an accompanying increase, from 16% (in 1998/99) to 52% (in 2002) of isolates with an MIC of ≥ 2 mg/l.

Since 1990, clinicians in the Indian subcontinent have used ciprofloxacin as a frontline drug against typhoid. In the last few years, however, the positive response to ciprofloxacin has been reduced and current data supports development of resistance to ciprofloxacin. As there is a low prevalence of MDR *S. typhi* (7%) at present, an antibiotic such as chloramphenicol could be re-used. In cases of MDR *S. typhi* resistant to ampicillin, chloramphenicol and cotrimoxazole and increased resistance to ciprofloxacin, the third generation cephalosporins could be the alternative.

Multicentre studies on the MIC of ciprofloxacin and prevalence of MDR *S. typhi* need to be carried out in India to determine the most appropriate therapeutic policy for typhoid.

We thank the management of Choithram Hospital and Research Centre, Indore, India for research support. ■

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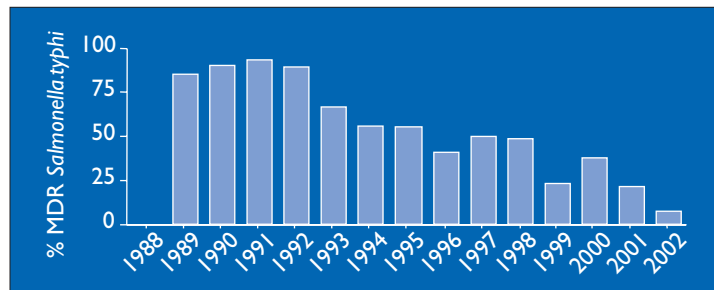


Figure 1: The prevalence of multi-drug resistant *Salmonella typhi* in India.

References

- Jesudason M, Malathy B, John TJ. Trend of increasing levels of minimum inhibitory concentration of ciprofloxacin to *Salmonella typhi*. *Indian J Med Res* 1996; 103: 247–249.
- Sabherwal U, Chaudhary U, Saini S. Multidrug-resistant *Salmonella typhi* in Haryana 1989–90. *Indian J Med Res* 1992; 95: 12–13.
- Threlfall EJ, Ward LR, Skinner JA, Smith HR, Lacey S. Ciprofloxacin-resistant *Salmonella typhi* and treatment failure. *Lancet* 1999; 353: 1590–1591.



DS Chitnis.

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9th Western Pacific Congress on Chemotherapy
and Infectious Diseases
Infectious Disease Association of Thailand
Royal Golden Jubilee Building
7th Floor Soi Soonvijai
New Petchburi Road
Huaykwang, Bankapi
Bangkok 10320
Thailand

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24th International Congress of Chemotherapy
Philippine Society for Microbiology
and Infectious Diseases
116 9th Avenue
Cubao
Quezon City
Philippines

Obituary

Slavko Schönwald (1934–2003)

Professor Schönwald was an infectious disease specialist dedicated to his clinical and scientific work. He taught generations of doctors, students and interns, who admired his enthusiasm and expertise. He spent most of his career at the University Hospital for Infectious Diseases in Zagreb, and his main fields of interest were chemotherapy, pharmacology and urinary tract

infections. Professor Schönwald became head of the Infectious Disease Department, School of Medicine, University of Zagreb and retired in 2003.

Professor Schönwald published numerous papers in domestic and international journals and authored or co-authored many textbooks. One of his last projects was a new Croatian textbook on infectious diseases. Publication of this

book is now left to us, his close colleagues, in dear memory of our professor.

Professor Schönwald was President and founder of the Croatian Society of Chemotherapy and an active member of several international associations, including the ISC, FESCI, ESC, ISID and ESCMID.

He will be greatly missed. ■

Bruno Barsic
Zagreb, Croatia

Letter to the Editors

Possible HIV vaccine

SIRS ~ There cannot be an AIDS vaccine (*Antibiotics Chemotherapy* 2003; 7: 12) but a vaccine against human immunodeficiency virus (HIV) would prevent the opportunistic infections that represent AIDS. Unfortunately, a rise in CD4 and CD8 counts, while interesting, may not presage protection against HIV infection. The article states that 'the vaccine improves survival times in endstage AIDS patients'. This is based on a comparison of two unmatched groups of terminally ill patients who declined or accepted treatment (the numbers in each group were not given). Any survival is good news, but the increase of 5 weeks would only be significant in matched, blind-controlled study. It is not clear whether the 40 000 people given V-I Immunitor (VI) were tested for HIV positivity and whether they and the 60 000 AIDS patients in Thailand are being followed up. VI has been licensed as a dietary food supplement although what heat and chemically inactivated HIV protein fragments add to the nutrition of sick people has not been tested. Research into immunity to HIV should be encouraged, especially any injection-free treatment. However, we must await controlled clinical trials rather than rely on a company-based report. ■

HV Wyatt
Leeds, UK

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The chicken or the egg?

The article on an oral AIDS vaccine (V-I Immunitor; *Antibiotics Chemotherapy* 2003; 7: 12) has prompted letters from readers who felt that use of this oral vaccine in patients infected with HIV is controversial: HIV patients need proper treatment with anti-retroviral drugs. The outcome for patients given the vaccine needs to be compared with those treated with anti-HIV drugs. A new vaccine also has to undergo rigorous clinical trials before routine use. Research in the field of HIV infection goes on, in the hope that a cure for HIV will be found. ■

Editorial Office

Topics in Food Safety

No magic bullets

Escherichia coli O157 and the other verocytotoxin-producing *E. coli* give up their secrets

Shiga toxin (verocytotoxin)-producing *Escherichia coli* (VTEC), of which *E. coli* O157 is one type, were first recognized as an important cause of potentially fatal food-borne disease some 20 years ago. These organisms (also called enterohaemorrhagic *E. coli*) are now yielding their secrets to scientists worldwide.

Fifth International Symposium on VTEC Infections

Between 8 and 11 June 2003 some 470 research workers gathered in Edinburgh at the International Conference Centre. This was the Fifth International Symposium on VTEC Infections and seldom has one category of one species of one genus of bacterium been subjected to such detailed scrutiny. Every facet of infection was discussed including epidemiology, the animal reservoir, laboratory methods and diagnostics, genomics, proteomics, pathophysiology, virulence factors and clinical aspects. There were 50 oral and about 250 poster presentations, and this report can only give a few salient points gleaned from them.

Escherichia coli O157

Bill Reilly (SCIEH, Glasgow, UK) and Patricia Griffin (Atlanta, GA, USA) both reported the significant finding that, in most countries, *E. coli* O157 is no longer a predominantly food-borne infection. In the UK environmental transmission accounts for well over half of all infections. In the USA, where *E. coli* O157:H7 causes an estimated 73 000 illnesses annually, although food accounted for many of the smaller outbreaks, environmental transmission

was responsible for more sporadic cases. Water has been responsible for many of the larger outbreaks, although food accounted for the smaller outbreaks.

The description of *E. coli* O157 as 'the burger bug' no longer seems justified. In the USA, although ground beef still accounts for just over half of the food-borne outbreaks, it now only accounts for about 21% of all food-borne cases. The proportion of ground beef outbreaks linked to fast-food restaurants has also decreased while the proportion occurring in private homes has increased. Transmission by vehicles such as apple cider (apple juice) and sprouting seeds has also assumed a greater importance. In the UK, transmission by milk and milk products is increasing.

Verocytotoxin-producing *Escherichia coli*

Escherichia coli O157 is not the only verocytotoxin-producing *E. coli*. In some countries, diagnostic tests for the toxins have shown that O26, O111, O103 and O145 account for many illnesses. The combination of the *eae* and *vtx2* genes – rather than particular serotypes – is associated with kidney disease in children and haemorrhagic colitis in adults.

The animal reservoir

The most important reservoir for VTEC is the bovine intestine. David Gally (Edinburgh, UK) showed that VTEC live almost exclusively at the ano-rectal junction.

Some researchers have been trying to reduce the carriage rate in bovines in order to reduce the incidence of food-borne and environmental infection. VTEC exploit host

processes to build cellular protrusions (pedestals) on the intestinal epithelial cells on which they sit. Pedestal formation is mediated by the insertion of bacterial proteins into the cells. One of these bacterial proteins, Tir, is inserted into the host-cell membrane.

Brett Finlay (Vancouver, Canada) has produced a bovine vaccine using the bacterial components involved in pedestal formation. A trial of the vaccine by Rodney Moxley and others (Lincoln, NE, USA), in combination with a *Lactobacillus* probiotic, has produced promising preliminary results: it appears to reduce but not eliminate bovine carriage.

Todd Callaway (College Station, TX, USA) has discovered a bacteriophage in sheep in Texas that specifically targets *E. coli* O157. Whether it will be effective in other animals remains to be seen, as bacteriophage treatment has been disappointing for other bacterial diseases.

Michael Doyle (Griffin, GA, USA) has found several *E. coli* strains that produce colicines effective against *E. coli* O157. Giving a mixture of these organisms to cattle may reduce carriage. He also questioned whether the American practice of destroying any consignment of ground beef found to contain *E. coli* O157 has reduced the disease incidence and concluded it has not had a direct effect. It has, however, had an effect on the practice and standards of ground beef producers.

When animals carrying salmonellae are subjected to stress, for example during transportation, the number of animals excreting salmonellae

increases considerably. Does this happen with *E. coli* O157? Apparently not, according to Paul Whyte (Dublin, Republic of Ireland).

It is not long since just three pathogenicity factors were recognized in VTEC: toxin 1, toxin 2 and the *eae* gene. One speaker listed 10 virulence factors and the list was incomplete.

It was disappointing perhaps, but not surprising, to learn that there are still no magic bullets for treating the human disease.

Genomics

As the meeting drew to its conclusion, lecturers focused on smaller and smaller components of the organisms. The genomes of several *E. coli* O157 strains have been sequenced and Tetsuya Hayashi (Miyazaki, Japan) pointed out the conserved and unconserved sections.

Highlight

For me the most memorable moment came in the talk by Michael James (Edmonton, Canada). He showed a movie of a three-dimensional rotating image of the A and B sub-units of toxin 2 locking together and binding to the host receptor. It was magic! ■



Norman Simmons

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Public health programmes in Africa

Part of a symposium at the 23rd International Congress of Chemotherapy, 7–9 June 2003, Durban, South Africa

These two presentations are partnership public health programmes that have achieved significant success in Africa. Partnership programmes involve academic institutions, government agencies, such as the Ministry of Health, the World Health Organization, the United Nations, non-government organizations, as well as communities themselves.

The Academic Alliance for AIDS Care and Prevention

David M Serwadda



INSTITUTE OF PUBLIC HEALTH, MULAGO HOSPITAL COMPLEX, KAMPALA, UGANDA

David Serwadda is Professor and Head of the Department of Disease Control and Environmental Health and Director of the Institute of Public Health, Makerere University, Kampala, Uganda. Professor Serwadda's major research interests include the epidemiology of human immunodeficiency virus (HIV), surveillance systems for infectious diseases, the

evaluation of HIV intervention programmes and opportunistic infections in AIDS. Current research projects include the molecular epidemiology, sero-epidemiology, and risk factors for HIV transmission in the Rakai district of Uganda. He is also a long-standing member of the Uganda AIDS Research Subcommittee, which evaluates proposals for AIDS research projects to be carried out in Uganda.

The Academic Alliances for AIDS Care and Prevention (AAACP) is an alliance between academic researchers in Uganda and the USA. The objectives of this alliance are: to improve the care of AIDS patients; train physicians and other health workers in the management of HIV/AIDS; use AIDS care to reinforce HIV prevention; conduct research with a view to improving HIV/AIDS care in towns and rural populations in Africa; and establish an Infectious Disease Institute (IDI) in Uganda.

The AAACP, in partnership with the Uganda Ministry of Health, manages an AIDS clinic at Mulago Hospital, Kampala, which has provided medication for opportunistic infections to more than 2000 AIDS patients.

The AAACP also runs a 4-week residential training programme in HIV/AIDS care for physicians. The programme is run in partnership with the Infectious Diseases Society of America, the Uganda Ministry of Health and the Institute of Public Health and Medical School at Makerere University, Kampala. More than 100 physicians have received training so far.

In the prevention of HIV infection, the AAACP has carried out a baseline survey to establish knowledge of, and attitudes towards HIV/AIDS care, with particular reference to antiretroviral drugs. The results of this survey will be used to formulate HIV prevention messages for patients attending HIV/AIDS care clinics. Other research focuses on evidence-based HIV/AIDS care. The AAACP will evaluate

opportunistic infections and develop treatment algorithms that can be used to resource poor, rural areas. As a result of a generous donation from Pfizer Inc., the construction of a building to house the IDI is now under way.

The Rakai Project, a population-based HIV intervention project, is an important research resource in the fight against HIV/AIDS in Africa. It is the result of collaboration between the Uganda Ministry of Health, the Uganda Virus Research Institute, Makerere University, and Johns Hopkins University and Columbia University in the USA. Over the last 14 years, the project has established a cohort of 10 000 respondents in the Uganda rural district of Rakai. This is an open cohort, with the main objective of evaluating innovative HIV prevention programmes, such as mass treatment to prevent HIV transmission and intensive health education. A trial investigating the effect of circumcision on HIV transmission is under way. ■

Blinding trachoma and the International Trachoma Initiative

Peter Kilima



INTERNATIONAL TRACHOMA INSTITUTE, DAR-ES-SALAAM, TANZANIA

Peter Kilima is Regional Co-ordinator for the Anglophone Africa

International Trachoma Initiative. He has been involved in health co-ordination at district and regional level as a district and regional medical officer, respectively. His last appointment in public service (Assistant Chief Medical Officer and Director of Preventive Service for Tanzania) gave him an opportunity to play a vital role in the health sector reform process in Tanzania, as a member of the Health Sector Reform Task Force. Dr Kilima's current research is centred on the treatment

and prevention of trachoma. He is also interested in public health policy and programmes, including matters related to equity in health.

Trachoma, caused by the bacterium *Chlamydia trachomatis*, is the world's leading cause of preventable blindness, and is especially common in poorer countries among communities with limited access to water and healthcare. Children are especially susceptible to the early inflammatory stage of the disease. Blindness typically occurs in adulthood during the

productive life of individuals, with women blinded three times more frequently than men (Figure 1).

Trachoma has significant impact, both globally and in the communities where it is endemic. It is responsible for productivity losses estimated at US\$2.9 billion *per annum*. More than 10% of the world's population is at risk of blindness due to trachoma. Six million people are already blinded while a further 150 million people need immediate preventative treatment.

Founded in 1998 by the Edna McConnell Clark Foundation



Figure 1: The clinical presentation of trachoma.

and Pfizer Inc., the International Trachoma Initiative (ITI) is dedicated to the elimination of blinding trachoma by the year 2000. The programme is concentrated in countries where the World Health Organization (WHO) has noted that trachoma remains a

significant cause of blindness. The ITI utilizes the four-pronged, WHO-endorsed SAFE strategy: Surgery, to correct the advanced stages of the disease; Antibiotics, to treat acute disease (using azithromycin donated by Pfizer Inc.); Face washing, to reduce transmission;

and Environmental changes, to increase access to clean water and improve sanitation to reduce positive determinants of disease.

During the past 3 years, the ITI has made significant steps towards the elimination of blinding trachoma. Globally, more than 50 000 individuals have received operations, saving them from imminent blindness, and more than five million azithromycin treatments have been given, about four million of which were administered in Africa. At the same time, different innovations have enabled health education to reach more than 20 million individuals. Evaluation 2 years after the start of the programme revealed a 50–80% decrease in active disease, representing one of the most pronounced public health achievements over such a short period of time.

Success against trachoma in Africa is the product of a highly effective partnership programme. The ITI works closely with many partners including governmental agencies, especially ministries of health; United Nations agencies, particularly the WHO and the United Nations Children's Fund; international non-governmental organizations (NGOs), such as Helen Keller, Sight Savers and World Vision; local NGOs; and, most importantly, at-risk communities themselves.

The ITI could not have achieved this without donor assistance – the ITI is grateful to The Edna McConnell Clark Foundation, Pfizer Inc., Bill and Melinda Foundation, Starr Foundation, The Dibner Fund, Izumi Foundation, Lavelle Fund for the Blind Inc. and the Rockefeller Foundation, as well as individual and target community contribution in kind. ■

First ISC Conference on Cancer Therapeutics – Scientific Programme

First International Conference on Cancer Therapeutics: Molecular Targets, Pharmacology and Clinical Applications

Florence, Italy, 19–21 February 2004

Organized by the International Society of Chemotherapy and Società Italiana di Chemioterapia



The First Conference on Cancer Therapeutics is the first of a series of meetings organized by the International Society of Chemotherapy in the field of cancer chemotherapy. The conference organizers are committed to assembling a programme featuring presentations from leading scientists working in the most topical fields of molecular targets and cancer therapeutics. The meeting will provide an opportunity to present and discuss the most up-to-date knowledge in these fields. Symposia, poster sessions and poster discussion sessions are planned, and there will be no parallel sessions.

The congress will be an important occasion for all scientists and physicians involved in laboratory, translational and clinical research in cancer drug

therapy. We look forward to seeing you in Florence.

Teresita Mazzei, Enrico Mini and Andrea Novelli

MAIN TOPICS

- Drug discovery technologies
- Experimental/molecular therapeutics
- Immunoactive agents (vaccines, biologicals, antibodies)
- Gene therapy, antisense, ribozymes, small ribonucleic acid interference
- Drug resistance
- Molecular and cellular pharmacology
- Pharmacogenetics and pharmacogenomics
- Pharmacokinetics and pharmacodynamics
- Clinical pharmacology
- Clinical trials
- Drug treatment of solid tumours and haematological malignancies



A joust in the Piazza Santa Croce, Florence, Italy in the 16th century by Giovanni Stradano.

ABSTRACT SUBMISSION DEADLINE

17 November 2003

CONTACT

First ISC Conference on Cancer Therapeutics, c/o Unità di Chemioterapia, Dipartimento di

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ECC-5 – Scientific Programme

5th European Congress of Chemotherapy and Infection

Rhodes, Greece, 17–20 October 2003

Contact: Congrex Sweden AB (ECC-5), PO Box 5619,

Linnegatan 89A, SE-114 86 Stockholm, Sweden

E-mail: ecc5@congrex.se

www.congrex.se/ecc5

President of Congress: Professor Helen Giamarellou



EXPERT LECTURES

1. The present situation with SARS and future prospects – *G Soroglou (Greece)*
2. Probiotics can be used in infectious diseases – *CE Nord (Sweden)*
3. Mechanisms of resistance in *Listeria monocytogenes* – *P Courval (France)*
4. Nosocomial urinary tract infection – what can be improved? – *KG Naber (Germany)*
5. Therapeutic drug monitoring: time for change? – *B Rouveix (France)*
6. Ethical issues in clinical trials of antibiotics – *GK Daikos (Greece)*
7. Lyme disease, chronic fatigue syndrome and Gulf War syndromes – *L Donta (USA)*
8. Antibiotic policies in the ICU; rotation and de-escalation revisited – *H Giamarellou (Greece)*
9. The bumpy road of surgical infection – *S Geroulanos (Greece)*
10. Towards a better understanding of bacterial languages – *J-C Pechère (Switzerland)*
11. Steps towards the control of antibiotic resistant bacteria – *L Strachounski (Russia)*
12. Will there be any new antimicrobial agents? – *E Rubinstein (Israel)*

STATE-OF-THE-ART LECTURES

1. The present situation with extended spectrum β -lactamases – *M Gniadkowski (Poland)*
2. Intracellular antibiotics and *Listeria monocytogenes* – *P Tulkens (Belgium)*
3. *Pseudomonas aeruginosa* infection – *EJ Giamarellos-Bourboulis (Greece)*
4. Spread of antibiotic resistance in *Salmonella* – *N Legakis (Greece)*

CONGRESS SYMPOSIA

S1. The resistance problems in community pathogens

Speakers: JD Williams (UK), A Vatopoulos (Greece), R Reinert (Germany), V Hryneiwick (Poland) and R Finch (UK)

S2. Influences on the use of antibiotics in the community

Speakers: M Heginbotham (UK), O Cars (Sweden), I Gould (UK), A Antoniadou (Greece) and D Monnet (Denmark)

S3. The practicalities of antibiotic administration in the community

Speakers: C Conlon (UK), A Novelli (Italy), F Scaglione (Italy) and E Rubinstein (Israel)

S4. A portrait of the group A streptococcus today

- a. The Strep-Euro project: severe *Streptococcus pyogenes* infections in Europe – *A Jasir (Sweden)*
- b. Pathogenesis and virulence of the group A streptococcus – *C Schalen (Sweden)*
- c. European surveillance of invasive group A streptococcal disease – *J Vuopio-Varkila (Finland)*
- d. Epidemiology of group A streptococcal invasive disease: UK perspective – *T Lamagni (UK)*
- e. Clinical aspects of group A streptococcal disease: treatment and vaccine prospect – *D Kafetzis (Greece)*
- f. Laboratory diagnosis and antimicrobial resistance in group A streptococci – *J Papaparaskevas (Greece)*

S5. UTI in the community

Speakers: G Syroyiannopoulos (Greece), B Lobel (France), R Raz (Israel) and M Cek (Turkey)

S6. Chronic prostatitis: an enigma in the community

- a. International Consensus Conference – *H Botto (France)*
- b. Chronic prostatitis in Greece – *G Petrikkos (Greece)*
- c. Is there any evidence-based therapy for chronic prostatitis? – *P Tenke (Hungary)*

- d. The role of *Chlamydia trachomatis* – *F Sofras (Greece)*
- e. Chronic prostatitis syndrome: new perspectives associating prostatitis to a functional urethral obstruction – *GA Barbalias (Greece)*

S7. The challenge for the prevention of influenza

- a. Influenza and overuse (or misuse) of antibiotics – *C Chidiac (France)*
- b. Pharmacoepidemiologic aspects – *TBA (France)*
- c. New vaccines, new strategies? – *B Fritzell (France)*
- d. Should we vaccinate children? – *V Syriopoulou (Greece)*
- e. What place for neuraminidase inhibitors? – *TBA*

S8. AIDS/HIV

Speakers: P Gargalianos (Greece), D Asthana (USA)

S9. Options for treatment of common surgical infections

- a. How long is treatment of abdominal sepsis/peritonitis – *I Sayek (Turkey)*
- b. Soft tissue necrotizing infections – the balance of surgery and antibiotics – *D Voros (Greece)*
- c. Infection in vascular grafts – *C Anagnostopoulos (Greece)*
- d. Infections in CNS shunts – *K Kanellakopolou (Greece)*

S10. Current opinion on surgical chemoprophylaxis

- a. Options for the gastrointestinal tract – *E Taylor (UK)*
- b. Avoiding some key antibiotics in chemoprophylaxis – *H Giamarellou (Greece)*
- c. Chemoprophylaxis in clean surgical procedures – *TBA (Greece)*

S11. Nosocomial infection in surgery: surgical site infections

- a. Decolonizing patients to prevent surgical site infections – *J Brun-Buisson (France)*
- b. Guidelines on surgical site infections – *TBA*
- c. Hospital infection control as a quality improvement programme – *E Akalin (Turkey)*
- d. Post discharge surveillance – *E Taylor (UK)*

S12. Nosocomial infection in surgery: resistant bacteria of surgical concern

- a. The perennial problem of increasing resistance in *Staphylococcus aureus* – *S Unal (Turkey)*
- b. Problems in the management of nosocomial enterococcal infections – *D Patterson (USA)*
- c. Antibiotic resistance in pseudomonads and acinetobacters – *L Peterson (USA)*
- d. Multidrug resistance in Gram-negative bacteria due to extended-spectrum β -lactamases – *H Giamarellou (Greece)*

S13. Update on pathogens and sepsis

- a. The immunopathogenesis of sepsis – *JWM Van der Meer (The Netherlands)*
- b. Procalcitonin and new approaches for monitoring sepsis-induced immunoparalysis – *G Monneret (France)*
- c. Current and future modalities for the treatment of sepsis – *EJ Giamarellos-Pourboulis (Greece)*
- d. The therapeutic significance of recombinant protein – *CPF Laterre (Belgium)*

S14. Advances in the management of invasive fungal infections

- a. Diagnostic and treatment

- challenges in invasive pulmonary aspergillosis – *J Maertens (Belgium)*
- Empirical versus pre-emptive therapy – *G Samonis (Greece)*
 - New antifungal agents – *O Lortholary (France)*
 - Emerging issues in the treatment of invasive candidiasis – *V Krcmery (Slovakia)*

S15. Controlling antibiotic use and resistance in low resource settings

Speakers: *V Krcmery (Slovakia)*, *A Shibl (Saudi Arabia)*, *A Ondrusova (Kenya)*, *A Doczeova (Sudan)* and *Z Memish (Saudi Arabia)*

S16. The current management of brucellosis

- Current state of and plans for the eradication of brucellosis in the Mediterranean – *M Bosilkovski (FYROM)*
- New antibiotics in the treatment of brucellosis – *J Solera (Spain)*
- What should be the treatment of focal brucellosis and for how long? – *G Pappas (Greece)*

S17. Management of hydatid disease

- Surgical treatment of liver and pulmonary hydatid disease – *N Harlaktis (Greece)*
- Percutaneous treatment of hydatid disease – *I Sayek (Turkey)*
- Indications for and selection of radical operations on the liver – *D Voros (Greece)*
- Anti-parasitic drugs – *D Voutsinas (Greece)*

- Alveolar hydatid disease – *S Geroulanos (Greece)*

S18. Round table on infections of particular interest in south-eastern Europe

- Epidemiological aspects of *Rickettsia coneri* – *L Zerva (Greece)*
- Management aspects of hepatitis in the eastern Mediterranean – *E Manesis (Greece)*
- Tuberculosis – regional overview and multiresistance in tubercle bacilli – *GL Daikos (Greece)*

S19. How to detect and clinical implications of low level resistance

- Resistance to β -lactams, fluoroquinolones, macrolides, lincosamines and streptogramins in *Streptococcus pneumoniae* – *R Reinert (Germany)*
- Resistance to glycopeptides in *S. aureus* – *R Leclercq (France)*
- Intermediate resistance to penicillin by target modifications in *Neisseria meningitidis*: is it a step toward high level of resistance? – *J Vazquez (Spain)*
- The role of multiresistant efflux pumps and *P. aeruginosa* – *K Kohler (Switzerland)*

S20. Antibiotic resistance problems in Turkey

Speakers: *C Bal (Turkey)*, *D Gur (Turkey)*, *A WilkeTopcu (Turkey)* and *H Eraksoy (Turkey)*

S21. Culture-negative endocarditis

- Value of standardized parameters for the diagnosis of culture-negative endocarditis – *C Naber (Germany)*
- Culture negativity due to rare and fastidious microorganisms: diagnostic and therapeutic implications in Europe – *E Rubinstein (Israel)*
- How and when to use molecular diagnosis tools – *B Hoen (France)*
- How and when: treatment of patients with suspected endocarditis but negative blood cultures – *K Werdan (Germany)*

S22. Current strategies on treating infections in neutropenics

- Assessment of high risk and low risk cancer patients – *V Seitanides (Greece)*
- Antibiotic treatment of sepsis in febrile neutropenic patients – *M Aoun (Belgium)*
- Empiric treatment of febrile neutropenic patients in areas with high prevalence of resistant strains – *M Akova (Turkey)*
- Treatment of fungal infections in the era of new antimycotics – *G Petrikos (Greece)*

S23. Efflux pumps and antibiotic resistance

Similarity of drug targets in man and microbe – *JD Williams (UK)*
The efflux proteins – *K Lewis (USA)*
Purification and characterization of

multidrug efflux proteins – *P Henderson (UK)*

Efflux pumps of bacteria and yeasts

Speakers: *JM Pages (France)*, *M Viveiros (Portugal)*, *M Kristiansen (Denmark)*, *K Kuchler (Austria)* and *J Subik (Slovakia)*

Efflux pumps of parasites

Speakers: *G Von Samson (Germany)*, *C Leandro (Portugal)*, *A Herrmann (Germany)* and *A Harder (Germany)*

Expert lecture

Modulation of multidrug resistance by gene therapeutic approaches – *H Lage (Germany)*

S24. Latest developments in some key classes of antibiotics

- Glycopeptide antibiotics: from Old Mississippi mud to new derivatives – a critical appraisal – *F Van Bambeke, PM Tulkens (Belgium)*
- Antipseudomonal activity of macrolides; clinical implications – *J-C Pechère (Switzerland)*
- Carbapenems take some steps forward – *DM Livermore (UK)*

S25. Viral and parasitic infections of concern in the Balkan area

- Viral haemorrhagic fevers current epidemiology – *A Antoniadis (Greece)*
- Crimean haemorrhagic fever – is ribavirin effective? – *A Papa (Greece)*
- Aseptic meningitis; diagnosis and epidemiology – *A Tsakris (Greece)*

Obituary

Zdenek Modr (1923–2003)



Society of Chemotherapy. Professor Modr will be remembered, not only in Prague, as one who devoted his life to patients, science and the service of mankind. Our sense of loss will be shared by his colleagues, former students and collaborators from the fields of antibiotics and chemotherapeutics, clinical and rational pharmacotherapy. ■

T Sechser
Czech Society of Chemotherapy

We regret having to announce the death of Professor Zdenek Modr, former Vice President of the International Society of Chemotherapy (1975–1979) and long-term Chairman of the Czech

I met Zdenek Modr in 1971 when he was Professor of Clinical Pharmacology in Prague. They were dark days when there were

few different types of antibiotics and found in low quantities. He had the enormous task of deciding the best policies for usage in what was then Czechoslovakia, and dividing supplies between communities and hospitals with varying degrees of secondary and tertiary care. He faced difficult decisions and provided a scientific slant to policies, which, if he had not been there, would have been decided by men in grey suits. He influenced many young Czech and Slovak pharmacologists and physicians who now contribute, in a less restricted way, to treatment of infection.

Zdenek was Secretary-General of the Czechoslovakian Society of Chemotherapy at that time and became President in 1971. He was

a member of the ISC Executive and contributed much to the establishment of the British Society for Antimicrobial Chemotherapy and the 9th International Congress of Chemotherapy held in 1975.

A calm, courteous and kind man, he was held in great affection and regard. His wry eastern European humour made his company relaxing and enjoyable. Despite being in ill health for the past few years, he maintained a keen interest in the affairs of the Czech Society and the ISC, and kept in touch with friends. He was a good contributor to the beneficial effects that antibiotics and chemotherapy have bestowed on mankind. ■

JD Williams
London, UK

6th APCMV Announcement – Scientific Programme

6th Asia-Pacific Congress of Medical Virology

Kuala Lumpur, Malaysia, 7–10 December 2003

Organized by the Malaysian Society of Infectious Diseases and Chemotherapy under the auspices of the Asia-Pacific Society of Medical Virology.

Theme: Viral Infections – Confronting the Challenges in the 21st Century

This will be the sixth in the series of triennial congresses of the Asia-Pacific Society of Medical Virology. An interesting series of plenary sessions and symposia covering a wide range of subjects will be presented. Topics of particular interest to countries in the Asia-Pacific region include herpesviruses, Enterovirus 71, viral haemorrhagic fevers, Dengue virus and severe acute respiratory syndrome. For the first time the congress will give Excellence Awards, in the form of attendance scholarships, to young investigators in the region who submit outstanding papers to the congress.

The meeting will be held at the Shangri-La Hotel, Kuala Lumpur, strategically located in the Golden Triangle. There are plenty of entertainment and shopping areas within walking distance and the hotel is well served by the city's monorail and light rail transit systems.

You are all most welcome to the congress.

Yasmin Abdul Malik
Chairman, Organizing Committee

Preliminary Programme

CHAN YOW CHEONG ORATION

- Dengue virus interactions with host cells – *Vincent Chow*

PLENARY SESSIONS

- The killer T-cell response – *P Doherty*
- Approaches to global vaccines: old and new recipes – *H Koprowski*
- Infectious diseases in uncertain times – *D Heymann*
- HIV pathogenesis and approaches to control the epidemic – *D Ho*
- Emergence and control of hantaviral disease – *HW Lee*
- World Health Organization (WHO) global surveillance for epidemic and pandemic influenza – *A Hampson*
- Molecular biological characterization of human herpesvirus 6 and 7: gene expression and pathogenesis – *K Yamanishi*
- Developing resistance to Dengue viruses in *Aedes aegypti* – *K Olson*
- Development of a new generation of recombinant virus vaccines and immune therapeutics using a rhabdovirus-based expression system – *B Dietzschold*



Kuala Lumpur.

PRE-CONGRESS SYMPOSIA

1. Influenza in the Asia-Pacific region: its impact and control

- WHO global agenda for influenza
- Epidemiology and health impact of epidemic influenza: global and regional perspectives
- Control of epidemic influenza: vaccines and their effectiveness, vaccination policies, role of antivirals
- Epidemiology and origins of pandemic influenza
- Planning for pandemic influenza – international and regional
- Surveillance for influenza – global and regional

2. Quality control in molecular diagnostics

- General aspects of molecular proficiency testing: general organization of proficiency testing; proficiency and accreditation
- Viral load testing: guidelines for quantitative molecular methods; proficiency panels for viral load testing for HIV, HBV, HCV
- Virus genotyping: HIV resistance genotyping; HBV and HCV resistance genotyping
- Non-viral pathogens: *Chlamydia trachomatis*, *Mycobacterium tuberculosis*
- Proficiency panels for qualitative viral RNA/DNA testing for diagnosis: Dengue; enterovirus; cytomegalovirus

CONGRESS SYMPOSIA

Dengue

- The conquest of Dengue: a global vaccination strategy – *S Halstead*
- Further progress on live attenuated

tetravalent Dengue vaccine – *N Bhamarapravati*

- Progress in the analysis of the pathogenesis of Dengue haemorrhagic fever – *L Kurane*
- Molecular evolution of Dengue viruses: forces of change – *J Aaskov*

Henipaviruses

- The NIH-FIC henipavirus group: examining the role of anthropogenic changes in the ecology and emergence of Hendra and Nipah viruses – *P Daszak*
- Genome diversity of emerging paramyxoviruses – *L Wang*
- Nipah and Hendra virus fusion, entry and its inhibition – *C Broder*
- Clinical manifestations of Nipah virus infection – *CT Tan*

Flaviviruses

- Development of chimeric live attenuated Dengue virus vaccines – *ChimeriVax-DEN* – *D Trent*
- Detection of Dengue virus NS1 provides early diagnosis and is a prognostic marker of disease progression – *P Young*
- The emergence and spread of arboviruses – *J Mackenzie*
- The emerging role of pathology of flavivirus infections – *S Zaki*

Respiratory viruses

- Avian influenza viruses and human disease – *M Peiris*
- Respiratory syncytial virus infections and their role in the exacerbation of asthma – *S Mahalingam*
- Newer diagnostic techniques for respiratory viruses – *L Jennings*
- Detection of human metapneumovirus in clinical specimens from infants by shell-vial culture and PCR – *J Schirm*

Haemorrhagic fever with renal syndrome (HFRS)

- Pathogenesis and diagnostics of hantaviral infections – *A Vaheri*
- Antigenic and genetic diversity of hantaviruses isolated in Far Eastern Asian region – *J Arikawa*
- Hantaviral infections in Korea – *KJ Song*
- Development and application of vaccine against HFRS in China – *CS Hang*

Viral hepatitis

- Hepatitis C virus subtype 1b sequence variation and development of hepatocellular carcinoma – *H Hotta*
- Progress on the yeast-derived immunogenic complex therapeutic vaccine on Hepatitis B – *YM Wen*
- Diagnosis and control of Hepatitis A and Hepatitis E viruses – *D Anderson*

Herpesviruses

- Serum Epstein-Barr virus (EBV) genome levels in subjects with raised Immunoglobulin A anti-EBV viral capsid antigen – *SH Chan*
- Taming nasopharyngeal carcinoma, a cancer aetiologically associated with EBV – *U Prasad*
- Varicella-Zoster virus: is strain distribution influenced by environmental factors? – *J Breuer*

Enteroviruses

- Molecular biology of Enterovirus 71 – *P McMinn*
- The central nervous system pathology of Enterovirus 71 – *KT Wong*

Diagnostic virology

- Molecular diagnostics in medical virology: technology and quality assurance issues – *D Asthana*
- Efforts to develop diagnostic test kits and neglected vaccines in developing countries – *C Wasi*
- Human calicivirus in acute diarrhoea: molecular diagnosis and typing – *S Broor*

Vaccines and therapeutics

- Herbal therapy in HIV and chronic Hepatitis B – a future alternative in integrated medicine – *NS Khairullah*
- Regional efforts for control of rabies in Asia – *MEG Miranda*
- Current update on HIV candidate vaccine – *P Thongcharoen*

CONTACT

Congress Secretariat, 6th APCMV, Department of Medical Microbiology, Hospital Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia
Tel: +60 3 9170 3836
Fax: +60 3 9172 1786
E-mail: sklam@nipahvirus.org
www.nipahvirus.org/article-780

Registration:

After 31 August 2003, US\$400 (includes access to scientific sessions and exhibition, official receptions, lunch and coffee break refreshments).

From the ISC Secretariat

The ISC Secretariat has been very busy right up to the 23rd International Congress of Chemotherapy (ICC) and an update has not appeared in the newsletter for a while.

The Officers and Executive of the ISC: 2003–2005

The Officers and Executive are: President – Jean-Claude Pechère (Switzerland), Vice-President – Joichi Kumazawa (Japan), Secretary-General – Kurt G Naber (Germany), Honorary Treasurer – Erdal Akalin (Turkey), Immediate Vice-Past President – Ronald Feld (Canada), George Drusano (USA), Wolfgang Graninger (Austria), Teresita Mazzei (Italy), Bernard Rouveix (France), Wing-Hong Seto (Hong Kong) and Richard Wise (UK) are ordinary members. Co-opted members are Hakima Himmich (Morocco) and Gustavo Gercovich (Argentina). Thelma Tupasi sits on the Executive Committee as the President of the 24th ICC. We welcome the new members: G Drusano, B Rouveix and W-H Seto. We thank the outgoing members: W Craig, K Klugman and V Lim for their services to the ISC during their term.

At the council meeting held in Durban recently, two new societies were admitted as members. They are the Romanian Society for the Study of Chemotherapeutics (President: Professor Mihai Nechifor) and the Yugoslav Society of Antimicrobial Chemotherapy (President: Professor Mijomir Pelemis). We welcome both societies into the ISC.

Publications

International Journal of Antimicrobial Agents
John David Williams remains the editor-in-chief, the editors are DM Livermore (UK), J-C Pechère (Switzerland), RW Sidwell (USA) and B Rouveix (France). Ian Gould (UK) is the

review editor and Fiona Drasar the editorial assistant. In 2002, Elsevier appointed a new journals manager and senior publishing editor based in London. There had been much progress in the publication, production, and sales and marketing of the journal. Because of this the royalties received by the ISC for the year 2002 were increased greatly than for 2001.

In 2002, volumes 19 and 20 were published along with several supplements and special issues. The impact factor has increased since the ISC took over this journal in 1998 (1.584 in 2002).

The number of papers received has also increased and there is scope for greater rejection.

The individual subscription costs have remained low (US\$85 for 12 issues) to enable members to subscribe at this low rate. A different category of membership of the ISC, which would include receiving the journal, is being discussed and will be offered to members of the ISC and distinguished contributors to chemotherapy.

Antibiotics Chemotherapy

This newsletter is still going strong. It should be a platform for discussion of many topics and we encourage our readers to send in their views and comments. It is now produced three times a year instead of four, as we only have one sponsor, but this does allow time between publications for production. The newsletter is distributed free of charge to about 15 000 readers throughout the world. We welcome articles from readers who wish to put their points forward or present their work. Please send us between 700 and 800 words plus your photograph for a one-page article.

ISC Disease Management Series meetings

The Disease Management Series (DMS) meetings form an in-depth forum for discussion of specialized topics. Since their inception last year, the ISC has held two such meetings: Urinary Tract Infection Update (Budapest, January 2003) and



Onto Manila for the 24th ICC – Thelma Tupasi (President of the 24th ICC) receiving the ICC plaque from Jean-Claude Pechère (President of the ISC) and Jaime Montoya (President of the Philippine Society for Microbiology and Infectious Diseases) looking on.

Surgical Infections (Moscow, May 2003). These were very successful meetings and the one in Moscow was attended by up to 1400 people. The papers given at these meetings will be published as supplements to the ISC Journal (*International Journal of Antimicrobial Agents*). Two more DMS meetings will be held this year on community-acquired pneumonia (Toronto, September) and bacterial resistance (Monte Carlo, November).

In 2004, several DMS meetings have been planned which include 'Septicaemia' in Okinawa on 4 June and another on 'Febrile Neutropenia' between 7 and 8 June in Kuala Lumpur.

The 23rd International Congress of Chemotherapy

This meeting was successfully held in Durban in June. Although the number of attendees was lower than at previous ICCs, due to anxiety about travel, distance and the problems with severe acute respiratory syndrome, the sessions were well attended. Many discussions on the problems faced by countries lacking resources were addressed. The next ICC will be in Manila and will focus on Western Pacific region problems.

24th International Congress of Chemotherapy

The Philippine Society for Microbiology and Infectious Diseases will host the 24th ICC between 4 and 6 June, 2005. This is 2 years away, but please

keep these dates in mind. Manila is a vibrant city with a rich cultural heritage and the Filipinos are known for their warm hospitality. The registration and hotel rates have been kept to a minimum and are amongst the lowest that the ICC can produce. Planning of the programme is underway and suggestions for topics are very welcome.

ISC Cancer Section

The ISC will be holding a series of meetings on cancer therapeutics with member-societies that have a major interest in cancer. The first meeting will be in Florence from 19 to 21 February (see page 11) which will be followed by Turkey and Japan in subsequent years. We hope that in this manner members who are cancer specialists will also have the opportunity to exchange views.

Future ICCs

As is well known, the venues of future ICCs are chosen 6 years ahead. In Durban the choice of Florence was made amongst the three bidders (Toronto, Florence and Istanbul) for ICC 2009. The Executive Committee subsequently discussed the problems of having two successive ICCs in Europe and the Italian Society agreed to defer Florence to 2011. Toronto, having the second highest votes would be the venue for 2009. This was put to member-societies who agreed by postal vote. ■

F Moosdeen
ISC Secretariat

Diary Dates

ISC Meetings

17–20 October 2003, Rhodes, Greece

5th European Congress of Chemotherapy and Infection (ECC-5)
CONTACT: Congrex Sweden AB, PO Box 5619, Linnegatan, 89A, SE-114 86 Stockholm, Sweden.
 Tel: +46 8 459 6600
 Fax: +46 8 661 9125
 E-mail: ecc5@congrex.se ■

6–9 November 2003, Monte Carlo, Monaco

Physicians and Antimicrobial Resistance 2003 (ISC Disease Management Series)
CONTACT: EAC srl, via Sannio 4, 20137 Milan, Italy.
 Tel: +39 02 5990 2320
 Fax: +39 02 5990 0758 ■

19–21 February 2004, Florence, Italy

1st ISC International Conference on Cancer Therapeutics: Molecular Targets, Pharmacology and Clinical Applications
CONTACT: 1st ISC Conference on Cancer Therapeutics, c/o Unità di Chemioterapia, Dipartimento di Farmacologia Preclinica e Clinica, Università degli

Studi, viale Pieraccini 6, 50139 Florence, Italy.
 Tel: +39 055 4271516
 Fax: +39 055 4271265
 E-mail: isc2004@pharm.unifi.it
 www.pharm.unifi.it/isc2004.html ■

7–8 June 2004, Kuala Lumpur, Malaysia

Management of Febrile Neutropenia (ISC Disease Management Series)
CONTACT: Professor VKE Lim, Infectious Diseases Research Centre, Institute for Medical Research, Jalan Pahang, 50588 Kuala Lumpur, Malaysia.
 Tel/Fax: +60 3 2691 9716
 E-mail: vkelim@imr.gov.my ■

1–5 December 2004, Bangkok, Thailand

9th Western Pacific Congress on Chemotherapy and Infectious Diseases (WPCCID)
CONTACT: Infectious Disease Association of Thailand, Royal Golden Jubilee Building, 7th Floor Soi Soonvijai, New Petchburi Road, Huaykwang, Bangkok, 10320, Thailand.
 Tel: +66 2 716 6874
 Fax: +66 2 716 6807
 E-mail: wpccid2004@idthai.org ■

4–6 June 2005, Manila, Philippines

24th International Congress of Chemotherapy
CONTACT: 24th ICC Secretariat, Philippine Society for Microbiology and Infectious Diseases, 116 9th Avenue, Cubao, Quezon City, Philippines.
 Tel: +632 911 6986
 Fax: +632 912 6036
 www.psmid.org.ph ■

Other Meetings

7–10 December 2003, Kuala Lumpur, Malaysia

6th Asia-Pacific Congress of Medical Virology
CONTACT: Dr Yasmin Malik, Department of Medical Microbiology, Hospital Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia.
 Tel: +60 3 9170 3836
 Fax: +60 3 9172 1786
 E-mail: sklam@nipahvirus.org
 www.nipahvirus.org/article-780 ■

4–7 March 2004, Cancun, Mexico

11th International Congress on Infectious Diseases
CONTACT: ISID, 181 Longwood Avenue, Boston, MA 02115, USA.
 Tel: +1 617 277 0551
 Fax: +1 617 731 1541
 E-mail: info@isid.org
 www.isid.org ■

14–17 March 2004, Singapore

2nd International Congress of the Asia-Pacific Society of Infection Control, Singapore
CONTACT: Communication Consultants, 56A Somme Road, Singapore, 207874.
 Tel: +65 6293 8220
 Fax: +65 6293 8230
 E-mail: comcon@pacific.net.sg
 www.icas.org.sg/apsic ■

1–4 May 2004, Prague, Czech Republic

14th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID)
CONTACT: AKM Congress Service, PO Box 6, CH-4005 Basel, Switzerland.
 Tel: +41 61 686 77 11
 Fax: +41 61 686 77 88
 E-mail: info@akm.ch
 www.akm.ch/eccmid2004/ ■

2–7 May 2004, Tucson, Arizona, USA

17th International Conference on Antiviral Research
CONTACT: Courtesy Associates, 2000 L Street, Washington, DC 20036, USA.
 Tel: +1 202 973 8690
 Fax: +1 202 331 0111
 E-mail: ISAR@courtesyassoc.com ■

3–5 December 2004, Berlin, Germany

2nd International Symposium on Resistant Gram-positive Infections
CONTACT: K.I.T. GmbH, Convention and Incentive Organization, Kurfürstendamm 71, D-10709 Berlin, Germany.
 Tel: +49 30 2460 3240
 Fax: +49 30 2460 3310
 E-mail: rgpi@kit.de
 www.grampos.com ■

2–5 April 2005, Copenhagen, Denmark

15th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID)
CONTACT: AKM Congress Service, PO Box 6, CH-4005 Basel, Switzerland.
 Tel: +41 61 686 77 11
 Fax: +41 61 686 77 88
 E-mail: info@akm.ch ■

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