a discussion of atypical infections and brief mention of new results regarding the stability of dried whole blood samples for serologic examination and the use of insecticide-impregnated screens to control vector mosquitoes; the prospective clinical study of DHF under way in Bangkok, carried out as a multicenter collaborative study involving Thai, United States, and Japanese scientists, was described. Presentations on nosocomial and community-acquired resistant infections, acute respiratory infections, and tuberculosis underlined the growing problem of antimicrobial resistance.

Several themes emerged from country reports: the growing importance of dengue fever/DHF and Japanese encephalitis in many countries of the region; increasing problems with diarrheal diseases and other food or waterborne diseases, including cholera; antimicrobial resistance and the need for assistance in laboratory culturing and sensitivity testing; the need for regional surveillance to better define the current patterns of antimicrobial resistance and for the establishment of regional quality control and proficiency testing as one aspect of the regional response; frustration with existing surveillance systems and need for assistance in developing improved surveillance tools and easier information sharing; the need for improved laboratory support, especially the regional availability of high quality diagnostic reagents and development of regional reference facilities; and the desire for a regional approach to addressing emerging infectious diseases.

The meeting concluded with recognition of the need for both greater research in the areas of the epidemiology, diagnosis, treatment, and prevention of EHEC and other Shiga-toxin producing organisms; further studies on DHF, including pathogenesis, clinical intervention, viral genetic variability, and genomic analysis; vaccine development; and improved vector control and fundamental strengthening of public health practices to address emerging infectious diseases including improved laboratory capacity, better surveillance programs, easier and more open communications and information sharing, and assistance in outbreak responses. Participants highlighted the need for greater training opportunities for scientists of the region and for development of regional reference facilities and centers of excellence. The meeting did not cover human immunodeficiency virus and AIDS, although there was clear recognition of its importance within the region.

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International Conference on Emerging Zoonotic Infectious Diseases, Taipei, Taiwan

The International Conference on Emerging Zoonotic Infectious Diseases, cosponsored by the Taiwan Departments of Health and Defense and the Centers for Disease Control and Prevention, was held March 1-4, 1997 in Taipei, Taiwan. The conference brought together scientists from Australia, France, the United States, and Taiwan and highlighted local work on dengue, Japanese encephalitis, plague, and rodentborne hantaviral infections.

The opening session outlined current efforts in the United States and internationally to improve and coordinate surveillance, laboratory diagnosis, and research of emerging infectious diseases. An example of a disease (yellow fever) whose threat has not been realized was described and reassessed in the context of globalization and other factors favoring and mitigating against the virus' dissemination. Although the possibility of epidemic yellow fever in Asia is small, it is important to reduce the disease at its sources in Africa and South America to further minimize this possibility. Ongoing efforts to elucidate the pathogenesis of dengue hemorrhagic fever, a growing problem in Taiwan and a leading cause of childhood illness and death in Asia and the tropics were summarized. Recent studies in Thai children have defined early clinical immunologic markers that differentiate febrile patients who contract dengue hemorrhagic fever from those with self-limited dengue fever; these findings suggest potential approaches to early recognition and specific intervention.

A session on viral hemorrhagic fevers reviewed recent Ebola virus outbreaks and the

discovery of a rapidly growing number of arena- and hantaviruses, their phylogeny and associations, and their specific rodent hosts. The virtual explosion of viruses identified in rodent reservoirs has left studies of their biologic, clinical, and epidemiologic correlates lagging; many of the newly discovered agents are orphan viruses. A report of local rodent surveys showed the presence of several hantaviruses in numerous species in Taiwan; human disease has not been recognized but epidemiologic studies are planned to define the spectrum and incidence of human infection. Approaches toward producing recombinant hantavirus vaccines and efforts to produce naked DNA vaccines for related vectorborne infections were reviewed.

Summaries of the recent emergence of dengue and dengue hemorrhagic fever globally and on Taiwan led to a series of talks on dengue vaccine development. Various approaches were discussed, including candidate live attenuated vaccines, purified inactivated and recombinant subunit antigens, and infectious clone-derived viruses and their engineered chimeras. A similar session focused on Japanese encephalitis (JE), its changing ecology and epidemiology on Taiwan and regionally in Australia, the molecular taxonomy of JE viruses, and recent developments in producing much needed rapid diagnostic kits. The cellular and molecular basis of JE pathogenesis was addressed in a series of reports on the protective role of *bcl-2* in viral-induced apoptotic death, viral inhibitory activity of cell derived NO_2, and viral genetic determinants of virulence and attenuation. Alternatives to the only internationally accepted JE vaccine, the relatively reactogenic and expensive inactivated mouse brain-derived vaccine, were discussed, including the live-attenuated SA14-14-2 vaccine produced in China, a Vero cell-derived inactivated vaccine under development in Taiwan, and a chimeric JE vaccine engineered upon a yellow fever 17D virus infectious clone.

The final session concerned plague; it described the history and current status of plague globally and on Taiwan; reviewed new developments in the molecular taxonomy of *Yersinia pestis;* compared the performance characteristics of various serologic and PCR-based diagnostic tests; and described plague pathogenesis and vaccine development. F1 and V antigens were defined as important virulence factors in mouse and primate parenteral and aerosol challenge models. Preliminary studies indicate their promise as constituents of a recombinant subunit vaccine.

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The 4th International Conference on Hantaviruses, Atlanta, Georgia March 5-7, 1998

The Centers for Disease Control and Prevention in Atlanta and cosponsors will host the 4th International Conference on Hantaviruses to allow exchange of scientific information on hantaviruses in the areas of epidemiology, clinical management, ecology, molecular biology, laboratory diagnostics, pathogenesis, drugs, and vaccine development.

The meeting will host plenary sessions with invited speakers as well as oral and poster sessions based on accepted abstracts.

Deadline for abstract submission is October 31, 1997. For more information, call 404-639-1510.

International Conference on Emerging Infectious Diseases, Atlanta, Georgia, March 8-12, 1998

Preliminary Information and Call for Abstracts

The Centers for Disease Control and Prevention (and other cosponsors) will convene a conference to 1) encourage the exchange of scientific and public health information on global emerging infectious disease issues, 2) highlight programs and activities that address emerging infectious disease threats, 3) identify program gaps, 4) increase emerging infectious disease awareness in the public health and scientific communities, and 5) enhance partnerships in addressing emerging infectious diseases.