DENGUE FEVER - THE CURRENT SITUATION AND FUTURE DIRECTIONS

INAUGURAL ADDRESS BY:

R. PARADIS, M.D., M.P.H., F.R.C.P. (C)
Associate Director
Health Sciences Division
International Development Research Centre (IDRC)
Ottawa, Ontario, Canada

On behalf of the the Health Sciences Division, of the International Development Research Centre (IDRC, Ottawa), it is a pleasure to have the opportunity to welcome all participants to this three-day Meeting on "Dengue Fever - the Current Situation and Future Directions".

We are indeed quite fortunate in having had the opportunity of hearing of recent development in research on Dengue Fever and Dengue Haemorrhagic Fever, from distinguished scientists from many developed and developing countries research institutions, as well as representatives from Ministries of Health from endemic countries in Latin America, the Caribbean and Southeast Asia.

I would like to express our sincere thanks to the Pan-American Health Organization (PAHO/WHO) for having provided the attendance of three representatives from countries in the Latin American regions, and being also involved in the presentation of a few background papers from their representatives to the Meeting, Dr. F. Pinheiro and B. Knudson.

I want also to express my thanks to the Rockefeller Foundation for providing support for an observer to the Meeting, in addition to Dr. Scott Halstead's personal contribution. I would also like to mention the excellent collaboration we received from the U.S. Centres for Disease Control, especially from The San Juan Laboratories in Puerto Rico, Dr. J. Gubler, and the Division of Vector-Borne Viral Diseases at Fort Collins, Colorado, Dr. D. Trent. We also have the opportunity of having a representative from WHO, Geneva, Dr. J. Esparza, and the Caribbean Epidemiology Centre, Dr. B. Hull.

I would like to emphasize the excellent contribution we received from the Mexican Government and the local authorities from the State of Yucatan, with particular reference to the Directorate of Epidemiology, Secretariate of Health in Mexico City, and the local organizing committee at the Centro de Investigaciones Regionales "Dr. Hideo Noguchi", Universidad Autonoma de Yucatan.

As you might know, the Health Sciences Division of IDRC has, for several years, been supporting research projects in the field of Dengue Fever and Dengue Haemorrhagic Fever/Dengue Shock Syndrome since 1978. The first project supported by IDRC was with the National Institute for Health Research and Development, Ministry of Health in Indonesia. The main objective of this three year project was to determine whether there is a relationship between the serotypes of Dengue viruses being transmitted in seven different provinces in Indonesia.

Another three year project in Sulawesi, Indonesia, had as an objective to determine if Dengue Haemorrhagic Fever occurs in the city of Ujung Pandang. The specific objectives of the study were respectively related to the identification of clinical cases, determination of various serotypes, study of the epidemiology of DHF transmission in the population, and identifications of the principal vector. This project was under the responsibility of the Department of Public Health, Faculty of Medical Sciences, University ofHasanuddin.

An on-going research project at the Department of Microbiology, Faculty of Medicine, University of Malaya, was approved in late 1984 for a three year interval. This project seeks to correlate epidemiological, clinical and entomological data in a selected Malaysian population aged 3 months-18 years old, in order to help identify the risk factors with an insight into pathogenic mechanisms of DHF/DSS. Specifically the project aims to determine the transmission of Dengue viruses in a defined population by carrying out a sero-epidemiological survey, to relate this to the occurence of DHF, to collect Dengue virus strains for antigenic and biological analysis, and to relate the occurence of DHF to vector density and other parameters such as sex, age, ethnic group, socio-economic factors, etc. etc.

Since 1985 the Health Sciences Division has supported a two year project with the Department of Microbiology, Universidad Nacional Autonoma de Honduras. The objectives of the project is to determine the different Dengue serotypes circulating in the various geographical regions of the country, to detect cases of DHF, to study the epidemiological characteristics and risk factors which favor the development of DHF, and to compare the validity of ELISA and hemagglutination inhibition (HI) laboratory techniques. This project is aiming to provide information about Dengue in Honduras in order to develop an appropriate surveillance programme in the country.

The Division has also been actively involved in the support of research projects on Dengue Haemorrhagic Fever in Cuba with The Instituto de Medicina Tropical "Pedro Kouri", for the last five years. A Phase II project has just been approved in 1986 with this institution, in order to continue investigations of various risk factors and characteristics of the virus which caused the 1981 outbreak. As you know, the 1981 epidemic in Cuba, involving 350,000 cases of Dengue Fever, with 10,000 DHF cases and 158 reported deaths, has represented an excellent opportunity to elucidate various factors in relation to Dengue outbreaks.

Specifically, the aim of the Phase II study is to continue investigations on risk factors for the development of DHF/DSS, and the characteristics of the virus. The other objectives are respectively: to conduct detailed clinico- pathological studies of fatal cases (158) of the 1981 epidemic; to conduct retrospective seroepidemiological studies in two regions where the severity of the disease differed from the rest of the country; and finally to compare the characteristics of ribonucleic acid from several type 2 Dengue virus strains isolated during the 1981 epidemic, with other serotype 2 strains isolated elsewhere. A few scientific papers have been presented in the course of these projects, and we shall hear, in the following days, of the details of these investigations by Cuban researchers.

As many of you know, the Health Sciences Division has supported the "International Conference on Dengue DHF", which was held in Kuala Lumpur, Malaysia, September 1-3, 1983. With over 100 participants, and presentations and discussions on more than 50 scientific papers, this Conference has represented an excellent opportunity for an exchange of scientific experiences in areas such as epidemiology, vectors and vector control, clinical aspects, pathogenesis and immunology, virology and molecular biology, and laboratory diagnosis for Dengue Fever/DHF.

In the hopes of encouraging further research, interregional discussions, and possible collaborative research ventures, it is therefore our pleasure to convene this three day scientific Meeting. We are convinced it will be beneficial for all of us here, and particularly to funding agencies such as IDRC. The objectives of the Conference are, therefore:

a) to bring together IDRC sponsored researchers and other interested parties from the two main areas in which Dengue Fever is endemic - Latin America, the Caribbean and Southeast Asia;

b) to exchange information and present papers summarizing current research in the epidemiology, clinical aspects, surveillance andcontrol of Dengue and Dengue Haemorrhagic Fever, and;

c) to develop direct linkages between Southeast Asian and Latin American Dengue researchers.

As I mentioned earlier, discussion of current priorities for research, with a possible list of recommendations to funding agencies such as IDRC, are one of the expected outcomes of this Conference. We also believe that this Conference could encourage the development of protocols for collaborative research projects within the Latin American region, and help in the coordination of research support between agencies such as IDRC, Rockefeller Foundation, PAHO/WHO, CDC, CAREC, etc. etc.

One of the mandates of our Division is to enhance indigenous research capabilities, in a view of improving surveillance and control of diseases such as Dengue. In this regard, we would be quite willing to envision support of further research activities in countries where Dengue is or could represent a problem of major public health significance.

Therefore, we expect that by bringing researchers actively involved in Dengue research, such as yourselves, from endemic countries at risk of a potential outbreak, it would help us in properly assessing research proposals addressing different epidemiological characteristics, in relation to the virus, the vector and the communities.

My colleagues, Dr. Dae Woo Han from our Singapore Office, Dr. Silvio Gomez from our Regional Office in Bogota, and Dr. Larry Gelmon in Ottawa wish all of you a very fruitful meeting, and again I would like to reiterate our sincere thanks for having accepted to participate in this most promising Conference. Thank you very much for your attention.