

Introduction

Malaria remains one of the leading causes of morbidity and mortality in the tropics. There are estimated to be 300-500 million cases of malaria resulting in 2,700,000 deaths, mainly African children under the age of five. Malaria accounts for an estimated 2.3% of the overall global disease burden reaching 9% in Africa. It is ranked third among major infectious disease threats, after pneumococcal acute respiratory infections and tuberculosis. Malaria now is considered to be a re-emerging disease, mainly due to migration of refugees and people seeking employment and to environmental changes, including forestry, mining and water development projects, as well as naturally occurring environmental events.

Currently, the WHO global malaria control strategy is aimed at reducing malaria mortality by the year 2000 in at least 20% compared to 1995 and at least 75% of affected countries. To this end, improved methodologies need to be developed to supplement existing control methods. In particular, anti-malarial drugs need to be improved to overcome the now widespread resistance obtained by malaria parasites, and malaria vaccines must be developed to prevent malaria in the first place. In order to meet these obvious needs, research in malaria must be intensified. The major objectives of malaria research today include the development and evaluation of novel, cost-effective control tools, such as new and affordable drugs, improved diagnostic methods, and effective vaccines.

On the bright side, many researchers in recent years have become interested in malaria, resulting in the rapid accumulation of new information. Among these recent recruits to malaria research are many young Japanese scientists. This increased interest in malaria on the part of Japanese workers prompted us to organize a Malaria Workshop in Tokyo on June 15-16, 1997. We invited some of the world's leading lights in malaria research to report on their recent works.

Prof. Ruth Nussenzweig of New York University, a pioneer in malaria vaccine development, has contributed greatly to this field. Prof. Peter Perlmann of the University of Stockholm is a leader in the study of malaria immunology. Prof. Michael Hollingdale of the University of Leeds works on the exoerythrocytic stages of malaria parasites; his findings may lead to the development of an exoerythrocytic malaria vaccine. Finally, Prof. Sornchai Looaresuwan, Dean of Faculty of Tropical Medicine, Mahidol University, is an expert on clinical malariaology and has trained many Japanese physicians.

This special issue of the Tokai Journal comprises the presentations from the Malaria Workshop and a comment from Prof. Perlmann. It may bring greater awareness to the reader of how far malaria research has advanced in recent years. We hope that new information presented here is applicable to the readers' own research.

Masamichi Aikawa, M. D., Ph. D.