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Introduction

Observations of the ingenious mechanisms by which adult schistosomes evade the immunological defence of the host began intensively about 20 years ago. Sophisticated approaches, such as those based on monoclonal antibodies and recombinant DNA techniques, have allowed researchers to begin unravelling the complex nature of immunity against different stages of this trematode. Several effector mechanisms, involving an array of effector cells, have been identified. In addition, the presence of blocking antibodies in the early phase of infection seems to upset the mechanisms that might otherwise be expected to lead to naturally acquired immunity. Research using animal models, such as the mouse and rat, has increased knowledge considerably but investigation of the immunology of primate schistosomiasis will have to be substantially expanded. Although the present proceedings provide ample evidence that an impressive body of information has been gathered, the goal has yet to be achieved. The fortuitous fact that schistosomes do not multiply in the host means that mor-

bidity is governed by the number of penetrating cercariae that survive and reach the egg-laying stage. This advantageous situation offers a unique possibility in that even a partially effective vaccine would be useful. Thus the quest for a vaccine against schistosomiasis is a realistic long-term approach for future control efforts.

Although more than 600 million people throughout the tropics are at risk of schistosome infection and of these about one third are actually infected, the disease is not a research priority in either developing or developed countries. Nevertheless, international donor agencies have spent close to US $40 million on schistosomiasis research over the last 15 years. About 25% of this amount has been contributed by TDR, of which more than US $4 million have been allocated to immunological research. National research councils and bilateral donor agencies are also providing research support, but the general trend at present is one of declining financial support. However, the success achieved towards a schistosomiasis vaccine is paralleled, in research on parasitic diseases, only in the field of malaria vaccine research. At the present rate of progress, it is conceivable that human vaccine trials could start in the early part of the next decade, but substantial funding will be required to comply with this time-frame. In addition, international coordination will be essential in order to avoid unnecessary duplication of effort and to ensure adequate evaluation of vaccine efficacy.

The sixteen lectures presented here were delivered upon invitation. In the interest of rapid communication, these papers have been submitted to only minimal editorial revision and this volume may therefore contain inconsistencies in style. The discussions following each presentation constituted an important part of the meeting but rather than presenting them in extenso, they have been integrated into an overview (p. 108–117), which summarizes the discussions and conclusions of the meeting.

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