

## **EDITORIAL**

# **Advances in research and control of tuberculosis**

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Tuberculosis was among the leading causes of death in Europe until the 1800's when it was called "the white plague". During the past several decades, tuberculosis has been steadily declining and it was thought it could be eradicated in advanced countries, despite a persistent endemic in the third world. However, the resurgence of tuberculosis in the late 1980's has alerted the medical community and the general public alike, that the control of this disease has failed and that there could be a threat of a new global tuberculosis epidemic. Domination of tuberculosis research in the 1940's by the screening and development of new drugs and the subsequent evolution of drug combinations led to major advances in the disease's therapy. In contrast, microbiological and immunological research lagged behind, and the diagnostic tools used by clinicians and public health workers have largely remained the same since the early period when Robert Koch presented his discovery of the causative agent of tuberculosis to the Berliner Physiological Society in 1882. A new research era has opened since 1985 when monoclonal antibodies and gene cloning have been used to identify and characterize the antigens of *M. tuberculosis*. Research in molecular genetics, clinical microbiology, immunology and epidemiology has subsequently boomed and a number of advances in research are being developed for clinical use.

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The European Respiratory Journal Supplement on "Advances in research and control of tuberculosis" is aiming to provide the pulmonary medical community with an overview of the subjects at the cutting edge of tuberculosis research. The chapters have been selected to cover several clinically relevant areas of advanced tuberculosis research. They include the characterization of the mobile genetic elements of *M. tuberculosis* which have been used for DNA fingerprinting, thus enabling epidemiologists to identify *M. tuberculosis* isolates and to track down epidemic clusters. The advances in tuberculosis immunology have been reviewed with special reference to the specificity and function of T-cells, and the perspectives for new vaccines were critically appraised. Recent progress in tuberculosis diagnosis using serology based on molecularly defined antigen reagents or using polymerase chain reaction (PCR) amplification of *M. tuberculosis* DNA have been discussed in separate chapters. Advances in the management of tuberculosis have been covered by research in the molecular biology of drug resistance and by reviewing the design and testing of new anti-tuberculous drugs.

The achievements in tuberculosis research during the past ten years are extensive, yet they are likely to be overshadowed by scientific progress that they foretell. This Supplement compiles progress in basic and applied research in those areas which are most likely to bring changes upon the fields of clinical management and public health control of tuberculosis.