

EDITORIAL

ERADICATION OF TUBERCULOSIS

The evolution of medical knowledge in tuberculosis is almost the evolution of medicine itself. From the time when doctors spoke of phthisis and consumption, the disease has exacted severe tolls of man. The first major breakthrough in man's understanding of this disease must be the discovery of the tubercle bacillus by Robert Koch, for the aetiology was from hence established firmly as being bacterial in origin. Thereafter, medical battles were fought on the importance of constitution and hereditary susceptibility in the resistance to the bacterial invasion, and it is worth noting that many questions in this direction have remained unanswered even to-day.

The standard treatment has been rest, both of a general and local nature. The diseased portion was rested with added refinements like artificial pneumothorax and pneumoperitoneum, as the patient relaxed otherwise in mind and body. Spas and sanatoria became the mainstay of therapeutics. Surgeons, too, were not idle, and attempts were made to drain cavities and empyema, and to resect ribs and compress lungs with the introduction of foreign matter in the pleural or extrapleural spaces.

The next major breakthrough is the discovery of streptomycin followed closely by the finding of many other agents effective in the control of tuberculosis. These agents have brought early cases under rapid control, and enabled selected advanced cases to accept definitive surgery. Thus was born a new era of early activity, and ambulant treatment, and within a matter of a decade, increasing numbers of hospitals for tuberculosis were unable to find enough patients to fill their beds!

Then came the final breakthrough when it was discovered that the primary infection could be induced by B.C.G. or Vole bacillus. This has promoted communities with heightened resistance to the invasion of the tubercle bacillus. The incidence of new active cases fell, and the dreaded tuberculous meningitis almost faded into insignificance.

Such is the development in the control of tuberculosis, and such in fact can be the pros-

pect and aspiration of many countries where the disease is still rampant. Areas like Puerto Rico and India would obviously still have the whole distance to cover in this race against the disease. Singapore and Malaya with an incidence rate of about 3% are only half way in the race. Nevertheless, the hope is there, and success is assured as long as the will and the facilities are available.

In the recent few years, these advances in knowledge have led to the concept of more effective prophylaxis. Instead of treatment, the idea is formed of creating a population with high resistance by exposing people to a mild form of primary infection, of treating cases exposed to the risk of infection with some tuberculo-static drugs like INH so that active disease may not arise, and of isolating open cases so that the primary cause of infection may be removed. Population-wide X-ray surveys enable the early detection of cases, and the principle of personal subsidy over a long term reduces the economic distress of a patient with a long ailment. All these measures put into practice have yielded good returns, and in many countries there is a progressive fall in incidence, and generally, tuberculosis is no longer regarded as the "white terror" as it was once known.

The more hasty of us might extol the value of one or the other discipline of medicine in the achievement in the field of tuberculosis. Bacteriologists talk proudly of their B.C.G. and public health experts are enthusiastic about country-wide programmes. A little reflection must show however, that the success story of tuberculosis is dependent on the collation of the contributions of all. The clinician studying the particular case unveils the natural history of the disease regarding host resistance and bacterial pathogenicity, the bacteriologists search the characteristics of the organism so as to expose the vulnerability of its Achilles heel, the pharmaceutical industry comes up with the specific agent, and the health officials carry out the nation-wide health measures including prophylactic inoculation and health education.

Whilst carrying out the health measures, the various deficiencies due to inadequate knowledge will be manifest, and these are again taken up by the clinician and the para-clinical men, and the search for a more satisfactory answer goes on. Thus medicine progresses from the particular to the general, and then from the general back to the particular again. Without the individual studies and research, the health side will lack the know-how to implement their measures, but without the health programmes, the knowledge gleaned from small scale studies and research will not have general application. The former ensures the standard of the prophylactic work, and the latter sees to the maximal benefit being

wrung out of every bit of medical advances made.

Thus in the prophylactic campaign against tuberculosis, it has been found that B.C.G. is not completely protective, that the tubercle bacillus is gaining resistance to the present tuberculo-static drugs, and that there may also be the question of animal reservoirs already well-known in the case of bovine tuberculosis. Further work is obviously indicated before eradication can be contemplated, and to talk of health measures alone in the control of tuberculosis can only show one side of the picture.

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