Public Health, Tuberculosis, and the Continuing Fight Against Infections

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Public health evolved out of the efforts of health professionals to combat infectious diseases. Despite the advances in public health and in clinical therapeutics, infections remain a challenge for the 21st century. As a reminder of these challenges, the World Health Organization has designated 24 March as World Tuberculosis Day. On this day in 1882, Dr Robert Koch described the studies that he had done to understand the cause of tuberculosis (TB) to a scientific meeting in Berlin. It is now 130 years since Robert Koch detected the cause of TB. Yet today the tubercle bacillus still poses great challenges to health workers, particularly in developing rapid and accurate diagnosis of clinical infections and characterizing public health risk. Once the diagnosis has been made there are problems with treatment, with the emergence of resistant bacteria and the difficulties of delivering reliable long-term treatment at low cost and often in remote areas.

In the 21st century, TB has taken on a new dimension as it is reactivated and invigorated in patients with immunosuppressive disorders, including HIV infection. In our region, undernutrition is diminishing, but the well-known synergy between TB and undernutrition, overcrowding, and poverty is a classic public health issue. Despite 130 years of public health effort since Koch’s Nobel Prize–winning discovery, one third of the world’s population is currently infected with TB. World TB Day raises awareness of the global epidemic of TB and efforts to eliminate the disease. “The Stop TB Partnership,” a network of organizations and countries fighting TB, organizes the World TB Day to highlight the scope of the disease and how to prevent and cure it. The World Health Organization is working hard with member countries and nongovernmental organizations to cut TB prevalence rates and deaths by half by 2015.

Koch’s work on TB, the main reason he was awarded the Nobel Prize, was performed over a period of about 20 years. After his discovery that pulmonary TB is caused by an infection with Mycobacterium tuberculosis in 1882, he isolated tuberculin in 1890 and demonstrated the difference between human and bovine TB in 1901. Robert Koch also visited our region, and when he visited New Guinea at the beginning of the 20th century, he made important contributions to our knowledge of tropical diseases. There he found that patients with malaria have parasites in their red cells and that leprosy and bubonic plague are bacterial infections.1 Koch’s postulates are still learned by all public health students and are still widely applied. But as one commentator has lamented, no one has yet been able to step into the great man’s shoes and devise the

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