BOOK REVIEW

Disease and Class: Tuberculosis and the Shaping of North American Society. EDITED BY GEORGINA D. FELDBERG, JUDITH WALZER LEAVITT AND MORRIS VOGEL, EDS. New Brunswick, NJ: Rutgers University Press, 1995. 274 pages. \$18.95.

Disease and Class is a historical portrait of contemporary American experiences with tuberculosis (TB), the resurgent disease that was commonly known as “the great white plague,” “the Captain of all men of Death,” and “the First Cause of Nineteenth-Century Deaths.” “TB, like AIDS, serves as a metaphor for other social ills.” The findings of this book on TB are also important when used in comparison with our approach to treatment of other diseases, like AIDS. The book has six chapters and several illustrations.

The book describes the social and political events that affected the U.S. federal government’s decision in the 1930s to 1950s to focus on hygiene and medication to treat TB, rather than vaccination by bacillus Calmette-Guérin (BCG). The author poses the question, why did America “eagerly seek” a vaccine to eradicate polio, a less prevalent and costly disease, as well as for other infections, and not “rush” to vaccinate against TB? This was despite research that demonstrated BCG to be 80% effective. Physicians argued that “poverty and social misery contributed to the development of TB, that the tubercle bacilli could not alone cause disease.”

The book has two purposes: first, to demonstrate that social circumstances in America shaped the judgment of clinicians, and second, to increase our understanding of why physicians focused on a sociological, as well as a medical, treatment for TB. Why did Americans treat TB differently from other diseases and from the way it was treated by other countries? The author argues that “medical responses to TB . . . intersected with and indeed formed part of the broader effort to consolidate the status of the American middle classes.” In this argument, she shows how different Americans were from Canadians, who began an extensive vaccination program with BCG.

Chapter 1 discusses how TB, also called phthisis or consumption, symbolized the “threat of departure from an agrarian way, from simple life lived in harmony with nature.” In the mid 19th century, “America and its values were rural, and as cities and TB grew side by side, disease seemed part of a more general threat to the established agrarian order. Consumption came to symbolize all that was wrong with American life. The altered means of production, the habits of city life, and the shifting relations between classes and sexes all came under scrutiny as causes of TB. . . . The campaigns against [TB] fused physiology with ideology to counteract the evil influences of urbanization

and industrialization and to create good citizens That goal . . . inspired [America] to build a combined physiological and sociological resistance to tuberculosis.”

In Chapter 2, the author moves forward to the late 19th and early 20th century. In 1882, Robert Koch identified the tubercle bacillus. However, in mid-19th-century America, there continued to be an absence of a simple link between infection and disease. American physicians explained consumption as being related to female gender, African-American race, urban environment, and nonagrarian employment. Treatment for TB centered on changing behaviors. As a result, in the early 20th century, sanatoria became the mainstay of TB treatment. By moving patients to wilderness areas for a program of rigorous outdoor activity, good food, fresh air, sunlight, and simple living, it was postulated that resistance to disease would be built.

In Chapter 3, we learn that in the early 20th century the anti-spitting campaign was the focus of TB prevention efforts. This again combined medical treatment and social improvement by the middle class. The social reform included education on diet and hygiene, which became a critical tool in the struggle against TB. Public health nursing was used to combat TB and moved treatment from the sanatorium into the home where it combined sanitary instruction, home improvement, and moralism. It was believed that treatment of TB independent of poverty was useless.

The TB epidemic symbolized fears that associated the demise of the United States with ethnicity, female gender, dependency, and immigration. More specifically, the author argues that the anti-TB focus against females inculcated middle-class female behavior and set the kernel for “women’s fraught relationship with dress, sexuality, and food.” Women were considered to be at risk of TB if they were thin, educated, and hardworking as they took on the multiple roles of student, employee, mother, and wife. By the 1920s, physicians, articulating their fears about female competition and emancipation, chastised women for departing from traditional roles. They suggested that their entry into the public sphere created an environment in which TB flourished.

Chapter 4 discusses the events of the 1920s. The author reminds us that in 1908, bacillus Calmette-Guérin, named after the Frenchman Albert Calmette, was discovered as an attenuated tuberculosis vaccine. However, this discovery was not reported in U.S. papers until 1924, by which time it had already undergone worldwide testing. In contrast to their foreign colleagues, U.S. doctors did not immediately embrace BCG. The author posits that American physicians resisted BCG because it would have forced them to abandon their understanding of TB as a physiological-sociological disease and their larger goal of transforming behavior to create good citizens.

Chapter 5 focuses on the period 1924–1926, when U.S. physicians continued to deeply share the “assumption that to combat TB one had to eradicate both the biological causes of the disease and the malnutrition, poor housing, lack of self-control, and general poverty that rendered Americans susceptible.” In contrast, testing BCG showed the vaccine was safe and effectively resulted in immunity to TB. But Americans questioned its safety and efficacy, and the debate continued on whether efforts should focus on attacking the poverty that bred the disease or on the bacterial causes of the infection.

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In Chapter 6 the author discusses the post-World War II period, during which there were increased rates of TB in rural America and in war-torn Europe. The medical community believed that increased TB rates were in part attributable to immigrants. The Public Health Service (PHS) became the central focus of TB control activities, and in 1944 established the Tuberculosis Control Division. The PHS focused on the detection and treatment of TB cases. Experts were recruited from epidemiology and child hygiene, but not from the biological sciences. The PHS employed a core of social workers to investigate the effects of war and industrialization, including poor nutrition, poor hygiene, and economic poverty and dependency associated with TB. The PHS concentrated efforts on preventing the first infection, but did not focus on mass immunization with BCG, which was thought to be questionable and which would allow for subsequent infection. Production of BCG was restricted by the PHS.

In 1943, new antibiotics, streptomycin and isoniazid (INH), alternatives to BCG that would cure and prevent TB, were introduced. However, by 1955, there was already evidence of resistant bacteria and drug toxicity. "Chemotherapy, one physician warned, was transforming TB from a 'killer' to a 'crippler', for as patients abandoned treatment, resistant organisms became a larger and larger problem, and relapses occurred with greater frequency." INH's complicated, lengthy treatment regimens prevented many patients from fully complying so American medicine's attention again turned to BCG. But the efforts for its use concentrated on prevention of reinfection, rather than prevention of primary infection. It was "unclear that the advantages of using BCG would outweigh the disadvantages of losing the tuberculin test as a diagnostic and case-finding tool." But others noted that "the tuberculin test gives no aid in the diagnosis of the re-infection type tuberculosis," for which the chest x-ray "is the most valuable aid in detection." Further, some noted that TB tests and chest x-rays did nothing to prevent infection, which BCG did. They believed routine vaccination of children would eliminate the need for screening, in contrast to others who believed that vaccination widened the population needing it.

With the exception of a few, every study in the United States suggested that BCG was effective in preventing TB. In the 1950s, many nations routinely administered BCG for TB prevention. Yet in 1957, the PHS reported its most effective methods for controlling TB were improvement in living conditions and general health, case finding, prompt treatment, isolation, and rehabilitation. BCG was thought to offer incomplete, rather than absolute, protection. In contrast, in 1959 the Canada Public Health Association concluded, after extensive use of BCG, which had been on trial for 40 years, it was safe, 80% effective, and conferred protection for 10 years.

So, why was BCG not in use as the United States in the 1960s? Why were experimental drugs chosen over BCG in the fight against TB? It was held that mass vaccination of the public with BCG was too costly. However, great costs were also incurred with the use of drugs, including "necessary supplements to treatment, which included screening, rehabilitation, and the services of medical and advisory staff." In the 1960s, the PHS lamented that TB "has been and still is the costliest communicable disease in the U.S.—both in terms of human lives and dollars." The medi-

cation/rehabilitation model of treatment was consistent with the PHS goal to build resistance to TB, with a focus on nutrition, hygiene, rest, and rehabilitation measures of TB control. INH "stimulates appetite leading the patient to greater food consumption, increased weight gain and presumably better nutrition" Thus, the use of antibiotics agreed with the goals of the PHS that they would be combined with social treatment, and nicely complemented sanatoria and hospital treatments. BCG did not complement and supplement the hygienic, dietary, and educational anti-TB programs, and could not be used in sanatoria and hospitals set up to treat TB. It obviated the need for institutionalization and healthy hygienic practices advocated by the PHS.

In her conclusion, Ms. Feldberg reminds us that currently the anti-TB campaign is still focused on immigrants, patients who do not take pills regularly, homeless persons, the mentally ill, and prisoners. Those who do not take medications are detained. Since the 1950s, doctors have been aware of drug-resistant strains and the difficulty with compliance to cumbersome antibiotic programs. But, the United States has ignored the role of BCG. This was partly due to "the absence of an American equivalent to the Pasteur Institute and the defensive posturing of researchers." BCG's fate was also due to the decline in TB morality during the first half of the 20th century. This decline was interpreted by the United States as having been due to improvements in the standard of living, so it reduced TB control efforts. In response to the same data on declining rates of TB mortality, Canadian medicine continued mass BCG vaccination, and considered it to be "necessary and justified."

Disease and Class is well written, richly detailed, and thorough in documenting the history of how physicians integrated knowledge of medical science into creating a social order. It is most appropriate for those of us who are interested in tuberculosis and have time to read such a compelling piece of work, which sheds light on our modern day approach and biases toward this dangerous disease. I highly encourage the author to distill her work into a manuscript-length article for one of our medical journals so her excellent work can be disseminated to generalists, specialists who treat TB, and public health policy makers.

Currently in the United States, the rate of TB is declining. The cautionary note of this book must be taken seriously. "We must not give in to our prior, idiosyncratic experience with TB," to the "illusion that we have conquered this disease." The confidence "that this disease was dead" led to actions that resulted in our new TB epidemic. As the number of new cases of TB declines, we must continue to track and screen for it in high-risk populations, and conduct research to develop more effective and efficient programs for treatment of active cases, as well as for TB prophylaxis. Even today, we continue to hear of TB as a disease of immigration, homelessness, poverty, mental illness, substance abuse, AIDS, overcrowding, malnutrition, poor general health, and poor hygiene. We still combine biological with social treatments, and are not using BCG in efforts to control this disease. This thought-provoking, comprehensive historical perspective on our treatment of TB suggests that we may need to bring back the debate of mass vaccination against TB with BCG.—**LILLIAN GELBERG, MD, MSPH**, Department of Family Medicine, University of California at Los Angeles.