

Case histories

Tuberculosis

No disease better illustrates the difficulties of early modern medical practice than tuberculosis. Arguments over heredity, nutrition, environment, and contagion all came together within the potent cultural frame of a condition that, by the early 19th century, killed about one in five Europeans. Rather than claiming thousands in swift, savage epidemics tuberculosis took its victims slowly, racking their bodies and exhausting their minds. Older names for the disease—consumption and pthisis (from a Greek word meaning to waste away)—reflect the way in which it seemed to destroy the body from within. Tuberculosis was a constitutional condition par excellence, one that seemed to sap strength until life was exhausted.

In 1819 the French physician René Laënnec turned his clinical gaze, honed in the hospitals of Revolutionary Paris, towards consumption. Laënnec argued that a disparate set of diseases were the result of the same kind of lesion in different tissues: scrofula in the lymph nodes of the neck, consumption in the lungs, and Pott's disease in the spine. 20 years later the German doctor Johann Lukas Schönlein named these lesions tubercles (from the Latin for a hillock), and the disease they engendered tuberculosis. Within a generation western doctors were using Laënnec's stethoscope to diagnose their patients with tuberculosis, but their prognoses remained bleak. Almost half of those diagnosed would die in their early twenties, and mortality was higher among women, perhaps due to the physiological strain of pregnancy, perhaps because men tended to be given the best of whatever food was available. In mid-19th-century Europe consumption reached an acme of cultural influence, as a mark of morbid Romantic sensibility and, when ameliorated with large doses of laudanum, a new cultural archetype of the good death.

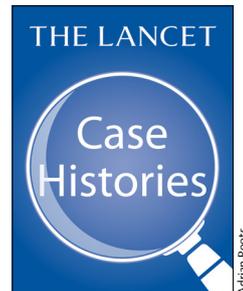
In March, 1882, the German bacteriologist Robert Koch announced to the Berlin Physiological Society that he had identified the bacterium that caused tuberculosis, *Mycobacterium tuberculosis*. Koch's ideas were taken up across Europe and the USA, and by the end of the century most doctors accepted that tuberculosis was an infectious disease. But older ideas continued to inform debates on the condition, most over some potentially hereditary component. And although Koch's work established a consensus on the cause of tuberculosis, his treatment—tuberculin, a glycerine extract of the bacterium, announced in 1890—was quickly shown to be ineffective. Through the late 19th and early 20th centuries sanatoria appeared in rural regions across western countries, some offering the light therapy pioneered by the Danish physician Niels Ryberg Finsen, others using surgery to "relax" an infected lung by collapsing it.

Although tuberculosis began to decline in the late 19th century—most likely a consequence of improving

nutrition and living conditions in the urban poor—the stigma attached to the diagnosis still encouraged doctors and patients to conceal it, and statistics showed that the disease was still closely tied to poverty. In the early 20th century some pessimistic commentators wondered whether humanity would suffer a kind of collective consumption, a slow degeneration into lassitude and irrelevance. By the mid-20th century these fears appeared groundless, as tuberculosis retreated in the face of a concerted public health and clinical research campaign. Action against bovine tuberculosis, the pasteurisation of milk, and the introduction of a vaccine, bacille Calmette–Guérin (BCG), in 1920 all helped to reduce rates of transmission. The antibiotic streptomycin, developed in the USA and marketed from 1946, provided the first effective treatment for the disease. Combination therapy with isoniazid and para-aminosalicylic acid initially solved the problem of streptomycin resistance, and proved so successful that sanatoria around the world were closed down.

Hopes of eradicating tuberculosis, however, have proved premature. Infection rates began to rise again in the 1980s, and have increased steadily ever since—immunosuppressed groups are at increased risk, notably people living with HIV/AIDS. Multidrug-resistant and extensively drug-resistant strains have emerged worldwide. As many nations continue to struggle with the challenges of poverty, migration, and health-service funding, this problem seems set to get worse.

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For more on **Case histories** see **Comment Lancet** 2016; **387**: 211 and **Perspectives Lancet** 2017; **389**: 2365

Further reading
Bynum H. Spitting blood: the history of tuberculosis. Oxford: Oxford University Press, 2012
Hardy A. The epidemic streets: infectious diseases and the rise of preventative medicine 1856–1900. Oxford: Clarendon Press, 1993
Waddington K. The bovine scourge: meat, tuberculosis and public health, 1850–1914. Woodbridge: Boydell Press, 2006

