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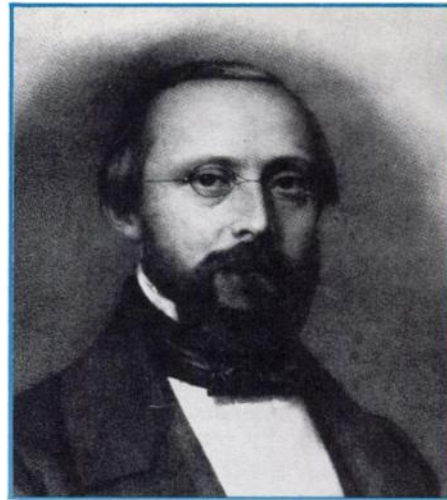
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classics
in Oncology

**Rudolf Virchow
(1821-1902)**



In 1845 Rudolf Ludwig Karl Virchow performed an autopsy on a 50-year-old female cook and found a condition he labeled, “white blood,” because of the great predominance of “colourless” corpuscles. Calling the affliction, “leukemia,” he differentiated between the splenic and lymphatic forms of the disease in 1847. Previously, leukemia was misdiagnosed as anemia, and patients were treated by drinking blood. John Hughes Bennett independently discovered leukemia at about the same time, but Virchow published the first detailed description of the disease, reprinted on the following pages, in his classic compendium of 20 lectures, entitled *Cellular Pathology*. Here Virchow stated the “heretical” and revolutionary thesis that new cells were formed by division of the old; *omnis cellula a cellula*. His concept was a radical departure from Schwann’s theory of the free formation of cells from “cytoblastema” and represented, as Virchow remarked, a “flight out of Egypt” for medical theory.

Photograph courtesy of the New York Academy of Medicine, New York.

Rudolf Virchow was born on October 13, 1821 in Schivelbein, rural Pomerania, formerly a part of Prussia and now in Communist East Germany. His father, a farmer and part-time town treasurer who became involved in many unsuccessful business ventures, carefully supervised Virchow’s early education by tutors until the boy’s departure for the Koeslin Gymnasium in 1835. There, Virchow soon displayed two qualities that characterized his entire life—academic brilliance and rebellion against established rules. In 1839 Virchow was awarded a certificate of maturity by the Gymnasium; his graduation thesis, entitled “A Life Filled With Toil and Work Is not a Burden, But a Blessing,” indicates his industriousness. Immediately he began his medical studies in Berlin, where his scientific interests were largely shaped by the foremost German medical scientist of the time, Johannes Müller. Upon graduation in 1843, Virchow’s medical career was begun as “company surgeon” at the Charité Hospital in Berlin. There, renowned for his lectures and loved by his patients, Vir-

chow enjoyed the exhausting work and came to be known affectionately as the "Little Doctor," a reference to his height.

In 1848, Virchow was sent by Prussia to investigate a typhus epidemic among the weavers of Upper Silesia. The poverty and starvation of the peasants so appalled him that he recommended many reforms to the government: a public subsidy, shifting taxes from the poor to the rich, and separation of church and state. Virchow later stated that this trip was the turning point in his political development, and he became permanently committed to overthrowing the bureaucratic-feudal government. The 1848 Berlin Uprising found a sympathetic revolutionary in Virchow. He regretfully wrote his father, "My own share in the uprising was relatively minor . . . as I could get hold only of a pistol, I could not do much more." Suspicious of his liberal politics but respectful of his scientific brilliance, the Prussian government removed him from the staff of the Charité. Virchow then settled in the more tolerant intellectual community at the University in Würzburg, as chairman of the pathological anatomy department. Seven productive years of inspired teaching were followed by his return to Berlin as professor of pathology and director of the Pathological Institute. The number of notable medical accomplishments in Virchow's early years is truly astounding: the discovery of the sarcomic and aspergillic forms of mycosis in the lung and bronchi; introduction of such major concepts as embolism, the identification of neuroglia, the lymphatic sheaths of the cerebral arteries, and rheumatic gout as "arthritis deformans"; the investigation of "lupus tuberculosis," leontiasis ossea, hematoma of the dura mater, spina bifida occulta, trichinosis and; the invention of the microtome.

In 1861 Virchow was elected to the Prussian diet and his political interest

came to the fore. A founder of the German Progressive Party, he led the fight against Von Bismarck. Virchow was such a strong political foe that the enraged Von Bismarck demanded a duel to remove his opponent; the challenge was politely refused.

Although he always remained an important force in German politics, in the 1870s Virchow concentrated on anthropology and ethnology. A founder of the German Anthropological Society, he contributed many important papers on medical history, racial characteristics and prehistoric findings. But he never lost his political popularity, and in 1880 was elected to serve in the Reichstag, where he remained until 1893.

Virchow's fame was now world wide; he gave the Croonian and Huxley lectures in London and was made a commander of the Legion of Honor in France. The *Archiv fuer Pathologische Anatomie und Physiologie*, which he had founded and edited, was a great formative force in modern medicine. Each passing year brought new honors to Virchow; every anniversary in his life was celebrated internationally. On his eightieth birthday, he received 50,000 marks from his German colleagues for the Virchow Institute, a gold medal from the emperor and an outpouring of international recognition. In appreciation, Virchow responded that he would not tire of working as long as his strength lasted.

A man of iron health and strong will, Virchow was often impatient with incompetence. Yet, he was known primarily for his kindness and generosity. Modest, almost ascetic in his personal habits, he refused titles of nobility. A Renaissance man, his brilliance extended into many fields.

At age 81, Virchow fractured the neck of the femur in a fall from a streetcar. In the forced inactivity of the sickbed, he declined rapidly and died on September 5, 1902 from a heart complication. The entire world mourned. @