The Emperor of All Maladies: A Biography of Cancer

Christopher Beaudoin, BA
Albert Einstein College of Medicine, Bronx, NY 10461.

As both a medical student and a cancer patient, I found that the Pulitzer Prize–winning book *The Emperor of All Maladies: A Biography of Cancer* by Siddhartha Mukherjee, D.Phil., MD (Simon and Schuster, 2010), gave me at once a dose of knowledge and a salve for the soul. Early in the book, Dr. Mukherjee candidly writes that he started his biography of cancer as a way, ironically, to escape his “immersive”—read “drowning”—oncology fellowship. He fled into the annals of cancer-treatment research to make sense of the lethal complexity—scientific, emotional, and human—that he and his patients were experiencing. He addresses the questions anyone with cancer can bat away only for so long: What is cancer? Why me? Years later, the finished product, a magisterial work of enormous research and reflection on the nature of cancer, has won and deserved its shower of accolades.

For Mukherjee, the modern history of cancer begins with Sidney Farber (of the eponymous Dana-Farber Cancer Institute, where Mukherjee received fellowship training), who warrants a book all his own. In the 1950s, Farber, a pathologist by training, became dissatisfied with the cloistered world of the lab and began his quixotic search for the cure for childhood leukemia, and more broadly, cancer itself. Taking a page from Paul Ehrlich's Salvarsan, a drug developed for syphilis decades earlier and the first “chemotherapy,” or sought-after “magic bullet,” Farber dreamed of treating cancer not with the scalpel or the X-ray beam but with a drug, something that was then inconceivable, cancer being more or less a black box of biology at the time. This turned out to be a prescient dream, as Farber’s therapeutic application of “fake vitamins” such as aminopterin and its sister acid, methotrexate, allowed him to leapfrog ahead of the rest of the world to become the first to receive targeted cancer therapy using antibodies. Also compelling is the ripe-for-Hollywood tale of the young, crusading scientist Dr. Druker, with antibodies. Long periods of darkness, of course, overshadow these blips of success. The history of cancer treatment has, by and large, been a long, sad, and mostly failing story. The earliest reference to cancer, in 1600 B.C., by the Egyptian physician Imhotep, sums up the patient’s fate grimly: “For this, there is no treatment.” This terse statement effectively became the standard of care for the next few millennia. With advances in surgery at the end of the 1800s, cancer treatment underwent a reappraisal. One ambitious surgeon, Dr. William Halsted—perhaps the book’s villain, if a human and tragic one—pioneered the most aggressive surgical treatment for breast cancer, the radical mastectomy. While improved surgical techniques...
provided an inroad to treating these tumors, Halsted's extreme technique turned out to be more disfiguring than therapeutic, and when he was faced with evidence of that, he deluded himself and retreated into alternating heroin and cocaine addictions.

Dr. Mukherjee's experience in the wards provides a handful of cameos, not only presenting him as a sort of Virgil to cancer's Inferno, describing the many hellish treatments that were used during the evolution of oncology, but also as a father, at the birth of his first child, and as a fellow, with vignettes of his own from the wards. These experiences set an expansive stage where cancer plays its role as antagonist and protagonist throughout ancient and modern medical history.

Mukherjee saves his best device for last, moving through the centuries with the story of Atossa, a Persian queen from 300 B.C. with breast cancer, as "cancer's Dorian Grey," following the progression of treatment from her own time (essentially, a brutal mastectomy) to the care she would have received in Halsted's day, also radical and disfiguring, to the treatment she would receive today: evidence-based surgical techniques, radiation, hormone and targeted therapy, along with a battery of screening measures based on her ethnic background and age, aimed at early detection and intervention for BRCA mutations. He also muses on a tantalizing future of individual patients' sequenced cancer genomes on flash drives, put into algorithms and matched to customized treatment regimens. But Mukherjee tempers his optimism, pointing out that with some kinds of cancer, such as pancreatic, the improved survival is measured in months, scarcely enough time for the requisite bookkeeping of our modern lives before we shuffle off the mortal coil. "Onkos (for oncology) arises from the ancient word *nek,*" Mukherjee writes at the book's conclusion, which means "to carry, to move the burden from one place to the next, to bear something across a long distance and bring it to a new place. It is an image that captures not just the cancer cell's capacity to travel—metastasis—but also Atossa's journey, the long arc of scientific discovery—and embedded in that journey, the animus, so inextricably human, to outwit, to outlive, and survive." By the end, Mukherjee has done more than simply tell the story of cancer; he has identified the struggle against cancer as something profoundly human and dignified and timeless, if no less tragic.

**Corresponding Author:** Christopher Beaudoin, BA (christopher.beaudoin@med.einstein.yu.edu).

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