

Chapter 8: The Runaway Cell: New Ways to Address the Killer That Is Cancer

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In the late 1960s, Steve Rosenberg encountered a patient, James DeAngelo, who miraculously survived a metastatic stomach cancer without treatment, leading Rosenberg to hypothesize the immune system's role in fighting cancer. Despite Rosenberg's initial failures in cancer research, his determination laid the groundwork for modern immunotherapy. The narrative shifts to the author's perspective, explaining his decision to pursue surgical oncology inspired by Rosenberg's work. The history of cancer research and the limited progress in curing cancer are discussed, despite significant investment and the discovery of the genetic complexity of tumors.

The chapter emphasizes cancer as a disease of aging, highlighting the prevalence and deadly nature of metastatic cancer, which remains a challenge due to late detection and the complexity of treatment. The importance of early detection, advancements in immune-based therapies, and the metabolic properties of cancer cells are discussed as critical areas for future breakthroughs in cancer treatment.

Historical attempts at tackling cancer through the immune system are examined, from William Coley's bacterial inoculations to Rosenberg's experiments with interleukin-2 and the development of CAR-T cells and checkpoint inhibitors, leading to recent successes in immunotherapy. Despite the promise of immunotherapy, it helps only a small percentage of patients, prompting the need for broader and more effective treatment strategies.

The author advocates for better screening to improve early cancer detection. He critically examines current screening practices for various cancers, emphasizing the need for more aggressive screening strategies and the potential of liquid biopsies to revolutionize early cancer detection by identifying cell-free DNA associated with tumors.

The chapter concludes with a reflection on the enduring challenge of cancer prevention and treatment. While recognizing the limitations of current strategies, the author remains hopeful about the prospects of immunotherapy, early detection, and the evolving understanding of cancer's metabolic and genetic properties, envisioning a future where cancer can be effectively managed or even cured.