Cancer Research: Embracing the Complexity of Cancer and Emergence of Truth

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The purpose of scientific journals, including that of Cancer Research, is to convey peer-reviewed information gleaned from rigorously executed experiments to answer specific questions and to test hypotheses that advance the field. Cancer biology is inherently complex with the interplay between cancer cell–intrinsic alterations that juxtapose with the tumor microenvironment, which provides the host's ability to control or give in to the progression of neoplastic lesions. Cancer cell–intrinsic alterations stemming from genetic or epigenetic alterations of oncogenic drivers contribute to the aberrant neoplastic cell that has lost normal feedback loops to attenuate cell growth and proliferation in the absence of external cues, including growth factors, extracellular matrix mechanical cues, and nutrient availability. The host's stromal and immune cells react to emerging neoplastic lesions as if they are infected by microorganisms and attempt to control cancer progression through inflammatory signals, which can be hijacked by cancer cells to favor immune tolerance and cancer progression. These fundamental conceptual frameworks have driven many articles published in Cancer Research, which also embraces studies that broadly account for individual variations in the population as well as translation of fundamental concepts in the clinical setting. Each manuscript stands on its own merit through peer review; however, each story is just a small piece of a very complex puzzle that Cancer Research as a journal wishes to help solve. As such, each article provides an evidence-based viewpoint of a specific aspect of cancer that may seem incongruent with other viewpoints, much like the multiple viewpoints of the characters in Kurosawa’s movie, Rashomon.

Not dissimilar to the characters having different viewpoints of the same plot in Rashomon, articles published in Cancer Research provide different experimentally derived viewpoints that hopefully lay the foundation for a cohesive, congruent picture of cancer. Cancer Research provides the venue to build this foundation through its various basic sections that span chemical biology to genomics and to the population. As a flagship journal, the balance between publishing articles that add to a solid foundation of emerging concepts and those that aim to generate novel concepts and shift paradigms is paramount to the success of Cancer Research. Fields can only advance if the concepts are validated by independent studies; hence, it is an obligation of Cancer Research to continue to publish foundational studies as well as those that disrupt current thinking.

The inherent complexity of cancer is also embraced by Cancer Research through new sections. For example, the Controversy and Consensus section aims to bring different viewpoints to highlight challenges to the field that need to be met for emergence of more congruent concepts of cancer that ultimately add to advances in cancer prevention, diagnosis, and treatment. The Convergence and Technologies section encourages articles that bring new ways of “seeing” the problems in cancer research. The combination of the more standard sections with the new integrative sections in Cancer Research will catalyze solutions for the complex cancer puzzle.

To solve this puzzle and help defeat cancer, the pieces of the puzzle represented by each article must fit in without being forced. This fit is characterized by rigorously designed and controlled experiments that are subject to peer review. As such, peer reviewers are an essential part of solving the puzzle. However, variations in values and the human nature of peer reviewers add to the dynamics of the emergence of truth. Often in the research community, we cite “the third reviewer” as either guardian or enemy of the truth standing in the way of several years of hard experimental work. In this regard, the primary role of Senior Editors, the Editor-in-Chief, and the Executive Editor is to ensure first and foremost the integrity of the article, but also to guard against overly zealous peer reviewers whose demand for additional work would likely not change the key message of the article. It is, however, critically important that the published studies are executed with technical rigor and with the utmost integrity.

As with all AACR journals, Cancer Research regards scientific integrity in its publications with the highest priority. The cancer puzzle can only be solved by well-fitted pieces of the puzzle and certainly not by force fitting by distortion of data. As such, we regard allegations of scientific misconduct pertaining to Cancer Research articles with utmost importance. We encourage readers to contact us and the appropriate academic institution if they find evidence of potential scientific misconduct in any articles published in Cancer Research. Collectively, we as members of the editorial board, and you as authors and readers, must hold the integrity of our cancer scientific knowledge base in the highest regard to catalyze the emergence of truth while embracing the complexity of cancer. On behalf of the editorial board, I thank the authors and readers for participating in our collective journey to help solve the cancer puzzle.
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