

Peer Review

Review of: "Is There a Hereditary Cancer Resistance Genotype?"

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This is an important review that discusses the need for exploring factors that render a small proportion of the human population resistant in terms of developing cancer, as well as a small (rare) proportion of cancer patients who respond remarkably well to therapies. As pointed out by the author, the host immune response must play a key role in both scenarios. The author may want to state that the rare cases of cancer patients in which conventional therapies result in long-term remission, and sometimes even cancer cure, are referred to as “exceptional responders” (PMID: 32339229).

This review focuses on genetic factors. Perhaps the author might consider telling the reader that it is still uncertain whether mutations beget cancer or vice versa, as highlighted by Prehn in 1994 (PMID: 7923156). Now we know that various non-mutational events (e.g., atavistic resistance gene reprogramming, epigenetic changes in the gene expression landscape, and polyploidy-amitosis-stemness) also play roles in cancer susceptibility (reviewed in, e.g., PMID: 39272964).

Another area that could help the reader appreciate the complexity of the questions raised in this article is widely misunderstood cancer-related responses, such as apoptosis. While many assume that “apoptosis” is equal to “death,” we now know that apoptosis fuels the oncogenic fire (e.g., PMID: 33179432) via various pro-survival pathways, including anastasis (also called programmed cell revival) (e.g., PMID: 40555379).

The above suggestions are optional. The author may or may not want to include them in the review. However, to state “apoptosis” without describing the various apoptosis-related pro-survival pathways could be misleading. Non-lethal outcomes after engaging apoptosis and other regulated cell death pathways have been recently reviewed (e.g., PMID: 37277528; PMID: 39378838 ; PMID: 40076508).

Attachments: available at <https://doi.org/10.32388/YEMJLI>

Declarations

Potential competing interests: No potential competing interests to declare.