

Cardiovascular Side Effects of Cancer Treatment

Erick Johnson*

Department of Cardiovascular Surgery, Sakarya University, Sakarya, Turkey

DESCRIPTION

Cancer is one of the most pervasive and devastating diseases of our time. While research and advancements in cancer treatment have improved survival rates, the pursuit of more effective therapies has led to the development of emerging treatments, including targeted therapies and immunotherapies. These innovative approaches have shown promising results in combating cancer, but they are not without their challenges. One significant concern that has emerged in recent years is the potential cardiovascular side effects associated with these new cancer treatments.

The rise of emerging cancer treatments

Traditional cancer treatments, such as chemotherapy and radiation therapy, have been the mainstays of cancer care for many years. While these treatments can be effective at killing cancer cells, they also come with a host of side effects, including damage to healthy tissues and organs. Emerging cancer treatments aim to address these shortcomings by specifically targeting cancer cells or bolstering the body's natural defenses against cancer.

Two of the most prominent categories of emerging cancer treatments are targeted therapies and immunotherapies. Targeted therapies are designed to interfere with specific molecules or pathways involved in cancer growth and progression. These drugs are often seen as more precise and less toxic than traditional treatments. Immunotherapies, on the other hand, harness the power of the immune system to recognize and attack cancer cells. These treatments have shown remarkable success in some patients, offering hope for those with previously untreatable cancers.

Cardiovascular side effects of emerging cancer treatments

While the development of targeted therapies and immunotherapies has revolutionized cancer treatment, these innovations have raised concerns about their potential cardiovascular side effects. Cardiovascular complications can range from mild to severe and may include:

Hypertension: Some targeted therapies, such as angiogenesis inhibitors, can lead to high blood pressure. Elevated blood pressure can increase the risk of heart disease and stroke.

Cardiomyopathy: Certain cancer treatments, particularly anthracyclines, can damage the heart muscle, leading to cardiomyopathy, a condition that weakens the heart's ability to pump blood effectively.

Arrhythmias: Some immunotherapies may disrupt the heart's electrical system, causing irregular heart rhythms (arrhythmias), which can be life-threatening.

Thrombosis: Certain cancer treatments can increase the risk of blood clots, which can lead to heart attacks or strokes.

Pericarditis: Inflammation of the pericardium, the membrane surrounding the heart, can occur as a side effect of some cancer treatments.

Heart Failure: Prolonged exposure to cardio toxic cancer treatments can lead to heart failure, a condition in which the heart cannot pump blood efficiently.

Understanding these potential cardiovascular side effects is crucial because cancer patients already face a higher risk of heart disease due to shared risk factors, such as age and lifestyle. Combining cancer treatment-related cardiovascular risks with pre-existing risk factors can be particularly dangerous.

CONCLUSION

Emerging cancer treatments offer hope and promise in the fight against cancer, but they also bring a new set of challenges, particularly in the form of cardiovascular side effects. Recognizing the importance of cardio-oncology and developing cardio-protective strategies are essential steps in ensuring that cancer patients receive comprehensive care that addresses both their cancer and cardiovascular health.

As the field of oncology continues to evolve, collaboration between oncologists, cardiologists, and researchers will play a pivotal role in reducing the cardiovascular risks associated with cancer treatments. By implementing personalized treatment plans,

Correspondence to: Erick Johnson, Department of Cardiovascular Surgery, Sakarya University, Sakarya, Turkey, E-mail: Jhonsonerick@hotmail.com

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early detection methods, and lifestyle modifications, we can strive to minimize the impact of cardiovascular side effects and

improve the overall well-being of cancer patients on their journey to recovery.