**Right ventricular dysfunction in cancer patients; real or dilemma?**

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Abstract:

Background: Cardiotoxicity is one of the challenges of treating a cancer patient. With the advancement of treatment methods and the production of new drugs, the life expectancy of cancer patients has improved significantly. As a result, cardiovascular diseases that may occur due to cancer treatment need special attention. In most studies, only the function of the left ventricle is evaluated to investigate cardiotoxicity, while the right ventricle can also be affected by anticancer treatments.

Objectives: In this review, we examined studies that are about right ventricular function and methods of diagnosing right ventricular dysfunction in cancer patients.

Methods: In this review, all documents in the field of right ventricular function of cancer patients undergoing chemotherapy were considered as the study population of this research. Search using keywords such as: cancer, chemotherapy, anthracycline, right ventricle, echocardiography and global longitudinal strain in relevant databases, including Medline, Scopus, Embase, Cochrane central, register of controlled trials and the Cochrane database of systematic reviews.

Conclusions: Right ventricular dysfunction can help predict the occurrence of left ventricular dysfunction. In addition, it can be the cause of many cardiovascular symptoms of the patient and even affect cardiovascular mortality in cancer patients. The methods of diagnosing right ventricular dysfunction have made many advances, including advanced echocardiography and cardiac MRI methods. It is recommended that patients refer to specialized Cardio-Oncology clinics for follow-up of cardiotoxicity caused by chemotherapy and anticancer drugs and evaluate with advanced echocardiographic techniques.

**Keywords:** cancer, chemotherapy, anthracycline, right ventricle, echocardiography, global longitudinal strain

**Biography: Azin Alizadeasl** is an Iranian cardio-oncologist and echocardiologist who complete her medical education in cardiology in Iran, Canada, and the USA. She is a faculty member of **the Rajaei cardiovascular medical and research center**and founded the first cardio-oncology center in the Middle East. She also pioneered establishing a cardio-oncology fellowship in Iran for the first time. Participating in research, training, and inventions of heart devices is one of her interests, which she always strives for. So far, she has participated in writing more than 400 articles and books and trained more than 600 physicians. Daily practice in cardio-oncology is a monthly program held under her supervision. All the physicians involved in the treatment of cancer patients around Iran participate in it and consult with each other to improve the lives of patients.

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