Cancer and Cardiovascular Disease. A New Entity

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Cancer and cardiovascular disease (CVD) are the two most common cause of mortality [1]. With an increase in the aging population worldwide, it is not uncommon for these two conditions to coexist. Amongst older patients diagnosed with cancer, heart and vascular disease is the most frequent concomitant condition [2]. About 20% of patients older than 70 years of age with newly diagnosed cancer have coexisting CVD [2]. Patients with a recent diagnosis of cancer also have an increased risk of death from cardiovascular causes [3]. Among patients undergoing coronary revascularization, greater than 50% of the deaths are due to non cardiac causes, of which 20% are related to neoplasia [4].

CVD sometimes precedes the diagnosis of cancer and can also occur as a complication of cancer therapy. Cancer and its treatment can also accelerate or worsen pre-existing cardiac disease. Both chemotherapy and radiation causes long term cardiovascular side effects. Chemotherapy agents can cause a wide range of cardiototoxicity, ranging from vascular events to heart failure and cardiomyopathy [5].

Some of the common agents predisposing to chemotherapy induced cardiomyopathy include anthracyclines and trastuzumab [6]. Certain other newer agents such as tyrosine kinase inhibitors and some newer investigational agents have also been recognized to cause cardiac side effects [6]. Radiation causes long term side effects which can affect the pericardium, valves, conduction system and myocardium [7]. Management of underlying cardiac disease may pose complex problem in patients with cancer. Due to concern about bleeding, presence of thrombocytopenia, poses particular problem in the management of patients with coronary stents or prosthetic valve.

Due to exclusion of cancer patients from large cardiovascular clinical trials, there is limited data available on the treatment of cardiac disease in cancer population. Physicians involved in the care of patients with cancer should have a low threshold for screening and treating patients with cardiac side effects of cancer and its treatment.

The key is early detection of these side effects, as treatment in these cases may halt the disease process or in some cases even reverse it. In patients with chemotherapy induced cardiomyopathy, treatment with standard cardiac medications like beta blockers and angiotensin converting enzyme inhibitors, will improve left ventricular ejection fraction, in particular if cardiomyopathy is detected early and therapy started promptly [8].

References


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