Cardiac toxicities associated with cancer therapy
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Cardiovascular toxicities associated with the use of several chemotherapeutic agents have been known for a long time. The most well studied classes of agents that have been associated with short term, as well as long term cardiac toxicities are anthracyclines, and the fluoropyrimydines. The cardiac side effects that most commonly occur from the use of these agents are rhythm disturbances, vaso-occlusive phenomena, and myocardial necrosis, resulting in dilated cardiomyopathies. Fludarabine, Pentostatin, Vinca Alkaloids, Taxanes, Alkylating Agents, Anti-Tumor Antibiotics as well as Biological agents such as IL-2 and IFN have been implicated in development of cardiovascular morbidity. However, in the last two decades, several new classes of agents directed towards solid and hematological malignancies have not only favorably altered the natural history of some of these diseases, but also introduced a spectrum of previously unknown and unrecognized cardiac adverse effects. Since novel therapies have resulted in extended survivals, patients are also more likely to experience some of the cardiovascular side effects associated with long term use of such medications. Anti EGFR directed therapies, such as Trastuzumab, and other monoclonal antibodies such as Rituximab, Bevacizumab, Affibercept and Alemtuzumab, as well as small molecules such as Sorafenib, Lapatinib, Imatinib, Regorafenib, Pazopanib, Axitinib and Vandetanib, to name a few, have also been seen to be associated with cardiac toxicities. Mechanisms of cardiac side effects, preventive measures, and interventions designed to minimize cardiovascular side effects from these agents are discussed. Guidelines for the prevention and monitoring of cardiac side effects from these agents are also presented.

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