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Managing Cancer Survivorship Issues

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ABSTRACT

According to the National Cancer Institute, there were more than 15.5 million cancer survivors in the United States as of 2016, and this number is expected to grow. Cancer survivors have to endure the disease and treatment effects, financial burden, employment and health insurance, and relationship issues. These issues can affect survivors' quality of life. Primary care nurse practitioners (PCNPs) are in the frontline of improving survivors' quality of life by managing and minimizing the impact of these issues. This article will cover these issues and the role of PCNPs.

Keywords: cancer, quality of life, survivors

Improved screenings and earlier detection, coupled with the advancement of treatments and an aging population, have contributed to the increased number of cancer survivors. The term *cancer survivor* is defined as "any person diagnosed with cancer and encompasses from the time of diagnosis through the remainder of his or her life."[1] According to the National Cancer Institute, there were more than 15.5 million cancer survivors in the United States as of January 1, 2016. There is an estimated 64% of cancer survivors living past 5 years and about 40% of survivors living past 10 years, and the majority of cancer survivors are < 65 years old.[2] As survivors transition into the community, uncertainties and anxiety often arise. Some experience isolation because they are seeing their oncologist less frequently, and there is also the question of whether their primary care providers know how to care for them.[3] Cancer itself and its treatments can cause long-term effects that can negatively impact quality of life. Issues that survivors often face include physical effects, employment, financial burden, health insurance, and relationships with others. Therefore, it is important that primary care nurse practitioners (PCNPs) understand and know how to manage these issues.

LONG-TERM SYMPTOM ISSUES

As mentioned previously, the number of cancer survivors is expected to rise, and PCNPs will encounter cancer survivors more often in the clinical setting. Cancer and its associated treatment may negatively impact the survivors' physical well-being, and these effects can be debilitating and severe. PCNPs must be able to recognize and manage these effects effectively. The Table lists common therapeutic agents or modalities and their toxicities.

Cardiotoxicity

Cardiovascular disease is a leading cause of death in both males and females.[4] This risk is increased in cancer survivors because of the use of multiple potential cardiotoxic therapies, particularly anthracyclines, such as doxorubicin and epirubicin, which have led to a higher incidence of mortality.[4] Anthracyclines have also been shown to increase the risk of development of cardiomyopathy and congestive heart failure (CHF) by 2%, and this risk doubles to 4% when used in conjunction with trastuzumab.[4] The risk of the development of cardiotoxicity is directly related to the anthracycline dose.[5] Survivors with other comorbid conditions, such as type 2 diabetes, hypertension, dyslipidemia, and obesity, are at an even greater risk for developing cardiotoxicity. Irradiation to the chest wall, high cumulative doses, and underlying cardiovascular disease are other risk factors that lead to anthracycline-induced cardiotoxicity.[6] In addition, those who received anthracyclines in combination with cyclophosphamide, trastuzumab, or paclitaxel are at an increased risk for developing cardiac toxicities, specifically cardiomyopathy and CHF.

Table. Common Long-term Toxicity in Adult Cancer Survivors[4,30]

Drug Class	Potential Toxicity	Incidence	Disease Most Commonly Used
Taxanes Paclitaxel Docetaxel	Neuropathy cardiotoxicity Arrhythmia CHF	Neuropathy Reversible in about 80%, resolves in about 40% by 6-8 months after cessation of treatment Cardiotoxicity 0.5%-8%	Breast Sarcomas
Anthracyclines Doxorubicin Epirubicin	Cardiotoxicity CHF Cardiomyopathy	2% 4% if used in conjunction with trastuzumab	Breast Lymphomas Leukemias Sarcomas Gynecologic Carcinomas Lung
HER-2 targeted drugs Trastuzumab	Cardiotoxicity CHF Cardiomyopathy Osteoporosis	Cardiotoxicity Increased when used in combination with anthracyclines, radiation, and other risk factors for CVD 2%-7% generally improve upon discontinuation of drug	Breast
Aromatase inhibitors Letrozole Anastrozole	Osteoporosis	Increased risk of osteoporosis	Breast
Hormonal therapies Tamoxifen	Menopausal symptoms Night sweats Hot flashes Atrophic vaginitis Osteoporosis Endometrial Cancer risk Thromboembolic events	Increased when used in combination with anthracyclines, radiation, and other risk factors for CVD Thromboembolic events 1%-2%	Breast Uterine Endometrial Cervical
Alkylating agents Cyclophosphamide	Cardiotoxicity Heart failure	30% Risk is greater if received radiation to chest, prior anthracycline treatment, other risk factors for CVD	Breast Lymphomas
Platinums Cisplatin Carboplatin	Peripheral neuropathy	Neuropathy Improves in most patients 2-6 months after therapy	Lymphomas Sarcomas Gastrointestinal Cancers Lung
Other Treatment Modalities	**Potential Toxicity**	**Incidence**	**Disease Most Commonly Used**
Radiation therapy	Cardiotoxicity CHF	About 3%	Breast Lymphoma Lung
Body image issues	Radical surgical resection	Increased in patients who received radical surgical resection	Melanoma Breast Gastrointestinal Testicular Thyroid Head and Neck

CHF = congestive heart failure; CVD = cardiovascular disease.