The Importance of Monitoring Cardiotoxicity in Patients with Breast Cancer

Sandra Cuellar, PharmD, BCOP
Director, Oncology Specialty Residency, University of Illinois at Chicago Medical Center

As an oncology pharmacist, I have witnessed tremendous advancements in the treatment of patients with cancer. Very few of these advancements rival the therapeutic strides made in breast cancer: these successes have led to growing numbers of breast cancer survivors. However, these successes have been overshadowed by the unintended, and often devastating, cardiac outcomes affecting survivors of breast cancer.

The cardiotoxic agents responsible for left ventricular dysfunction and heart failure include anthracyclines and the HER2-neu-directed agent trastuzumab. Indeed, the patients at highest risk for negative cardiac events are the subset of women with breast cancer who receive these 2 cardiotoxic agents. A 27% incidence of cardiac dysfunction has been reported in women who receive these 2 cardiotoxic agents as part of their treatment regimen.

The current standard of care is to monitor ejection fraction at baseline and posttreatment after anthracycline therapy. For trastuzumab therapy, it is recommended to monitor the patient's ejection fraction every 3 months while the patient is receiving therapy. Monitoring the left ventricular ejection fraction is valuable and may result in interrupting trastuzumab therapy; however, the cardiac damage has already occurred.

Healthcare professionals are operating in a reactive rather than a proactive manner. Ideally, detecting cardiac damage before it results in a decline in ejection fraction may lead to better cardiac outcomes. According to the symptom management overview article in this issue by Alison Palumbo, PharmD, MPH, BCOP, and Joseph Bubalo, PharmD, BCPS, BCOP, novel strategies for detecting early cardiac dysfunction have been investigated, and studies are ongoing.

Novel management strategies include monitoring troponin levels and measuring global longitudinal cardiac strain.

The importance of recognition and awareness of the need for better monitoring was highlighted at the American College of Cardiology’s 65th Annual Scientific Session & Expo in 2016. Several sessions were devoted to cardio-oncology topics, particularly to novel strategies, including monitoring cardiac biomarkers, prophylactic use of cardioprotective drugs, and utilizing better diagnostic or imaging modalities. As more data accumulate and mature, it is likely that we will see new recommendations for monitoring cardiotoxicity in patients with breast cancer.

References