observed in patients who recovered a normal LVEF, compared to those with persistent cardiac dysfunction, even if asymptomatic, thus underscoring the inadequacy of a symptom-guided approach. Lack of cardio-oncology consultation may represent a missed opportunity for early diagnosis and intervention.

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REFERENCES

1. Cardinale D, Colombo A, Bacchiani G, et al. Early detection of anthracycline cardiotoxicity and improvement with heart failure therapy. Circulation 2015;131:1981–8.

2. Hunt SA, Abraham WT, Chin MH, et al. 2009 focused update incorporated into the ACC/AHA 2005 Guidelines for the Diagnosis and Management of Heart Failure in Adults: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol 2009;53:e1–90.

3. Jones DN, Jordan JH, Meléndez GC, et al. Frequency of transition from stage a to stage b heart failure after initiating potentially cardiotoxic chemotherapy. J Am Coll Cardiol HF 2018;6:1023–32.

4. Armenian SH, Lacchetti C, Lenihan D. Prevention and monitoring of cardiac dysfunction in survivors of adult cancers: American Society of Clinical Oncology clinical practice guideline summary. J Oncol Pract 2017;13:270–5.

5. Kalogeropoulos AP, Samman-Tahhan A, Hedley JS, et al. Progression to stage D heart failure among outpatients with stage C heart failure and reduced ejection fraction. J Am Coll Cardiol HF 2017;5:528–37.

The Need for Cardiovascular Risk Factor Prevention in Cardio-Oncology

We read with interest the elegant paper by Jones et al. (1), investigating progression from stage A to stage B heart failure (HF) after potentially cardiotoxic chemotherapies.

Given the known influence of cardiovascular risk factors (CVRF) on the development of cardiotoxicity (2,3), the absence of a relationship between the number of CVRF and transition to stage B HF is surprising, even considering the small sample size. A possible explanation may be that CVRF were well controlled, and thus, their detrimental effect was blunted. This may be even more so keeping in mind that the association of CVRF with cardiotoxicity has mainly been identified by retrospective analyses of cohorts in whom management of CVRF might not have been as prompt as in a prospective cardio-oncology study such as that by Jones et al. (1).

However, in the cohort of the study by Jones et al. (1), the prevalence of CVRF was substantial. This also has been our experience. For instance, among 604 unselected patients visited at our cardio-oncology outpatient clinic prior starting chemotherapy in 2016, 300 subjects (49.7%) had hypertension. Notably, 69 of them did not have blood pressure values on target. Moreover, of the remaining 304 subjects, 40 received a new diagnosis of hypertension.

We believe findings from these different experiences require considerable attention. The most robust predictor of HF in patients with cancer is still an anthracycline-based regimen (1). In the study by Jones et al. (1), 67.2% of patients were ≤60 years of age, and thus had a long-life expectancy. Because anthracycline cardiotoxicity may occur late after exposure (4), cardiovascular surveillance must remain a priority, with a structured follow-up. In this context, prevention of CVRF should become an essential part of oncological assessment prior to chemotherapy.

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REFERENCES

1. Jones DN, Jordan JH, Meléndez GC, et al. Frequency of transition from Stage A to Stage B heart failure after initiating potentially cardiotoxic chemotherapy. J Am Coll Cardiol HF 2018;6:1023–32.

2. Pinder MC, Duan Z, Goodwin JS, Hortobagyi GN, Giordano SH. Congestive heart failure in older women treated with adjuvant anthracycline chemotherapy for breast cancer. J Clin Oncol 2007;25:3808–15.

3. Szmit S, Jurczak W, Zaucha JM, et al. Pre-existing arterial hypertension as a risk factor for early left ventricular systolic dysfunction following (R)-CHOP chemotherapy in patients with lymphoma. J Am Soc Hypertens 2014;8:791–9.

4. Spallarossa P, Maurea N, Cadeddu C, et al. A recommended practical approach to the management of anthracycline-based chemotherapy cardiotoxicity: an opinion paper of the working group on drug cardiotoxicity and cardioprotection, Italian Society of Cardiology. J Cardiovasc Med 2016;Suppl 1:e84–92.

Novel Risk Stratification for Chemotherapy-Induced Heart Failure

We took an interest in the study by Jones et al. (1) initiating potentially cardiotoxic chemotherapy and the frequency of transitioning from stage A to more advanced heart failure (HF) stages. This study was conducted in individuals scheduled to undergo chemotherapy with potential cardiotoxicity to assess the change in HF stage from baseline to 3 to 6 and 12 to 24 months after treatment (1). Risk factors associated with cardiotoxicity have been the focus of attention, providing new methods for the accurate treatment of chemotherapy-induced HF.

Firstly, this study continuously recruited 144 patients and prospectively assessed the risk factors affecting HF stages, including the rate of progression to more advanced HF after chemotherapy. The authors found that smoking was a risk factor for the transition to stage B at 12 to 24 months and the combination of anthracycline and trastuzumab resulted in the transition from stage A to stage B at 6 months (1). A retrospective study of 16,456 patients also found that the risk of cardiotoxicity increased in patients aged ≥65 years old with pre-existing hypertension who were treated with trastuzumab and anthracyclines (2). However, diagnostic sensitivity and predictive power to detect chemotherapy-induced HF were expected to be proven further through clinical research. Secondly, this study (1) did not find that cardioprotective drugs had an alleviating effect on chemotherapy-induced HF. At 3 months, there was no statistical difference between the application of angiotensin-converting enzyme inhibitors in stage A and stage B, which were 26.7% and 25.9%, respectively. However, a recent study found that early initiation of standard HF medical treatment might lead to left ventricular (LV) function recovery in anthracycline-induced cardiotoxicity (AIC) (3). Unfortunately, there is not enough clinical evidence in this study to indicate that standard HF medications are recommended for patients with LV dysfunction or at high risk of AIC (3). In addition, the pre-treatment data from the cardioprotective medication group and the noncardioprotective medication group were not elaborated in the study, which may lead to statistical bias. Finally, unfortunately, this study did not perform related research on the biomarkers produced by cardiovascular stress which can be used to predict LV systolic dysfunction, thereby identifying some high-risk patients and actively intervening to reduce the morbidity and mortality (4). One such study suggested that 3 genomic markers significantly increased the risk for AIC, namely, ABCC2 rs8187710, CYBA rs4673, and RAC2 rs13058338 (5). This will significantly improve the reliability of the results and provide a rapidly and accurately prediction of cardiovascular toxicity event in the future.

Overall, this study described the frequency of transitioning from stage A to more advanced HF stages in detail, including the timepoints and risk factors leading to HF development in patients receiving potentially cardiotoxic chemotherapy. A novel idea and research direction for studying cardiotoxicity has been given us by this study despite the small sample size. In the future, a better understanding and the early identification of the risk factors of HF in cancer patients will prevent the progression of HF induced by cardiotoxicity, and more effective treatment options for HF prevention will be determined.

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REFERENCES

1. Jones DN, Jordan JH, Melendez GC, et al. Frequency of transition from stage A to stage B heart failure after initiating potentially cardiotoxic chemotherapy. J Am Coll Cardiol HF 2018;6:1023–32.