

LETTERS TO THE EDITOR

Novel Technologies Must Be Considered for Childhood Cancer Survivors at Risk for Cardiomyopathy



We read with great interest the paper by Aziz-Bose et al¹ on the consensus recommendations for screening and managing childhood cancer survivors at risk for cardiomyopathy. Our group supports the adoption of existing risk-based screening guidelines as endorsed by the Delphi panel in this study. However, there are a few points worth mentioning, and additional novel methodologies that should be considered based on the evidence presented in other studies.

There is no discussion of the opportunities in electrocardiography using artificial intelligence. Although a relatively novel technique in cardiology, machine learning algorithms have demonstrated their capability to enhance the prediction of cardiac dysfunction in cancer survivors.² Artificial intelligence has wide applications in health care, particularly in the analysis of electrocardiograms and the prediction of cardiomyopathy in cancer survivors. The notion of machine learning algorithms and their applications in the screening and management of those at risk for cardiomyopathy are absent, and we think these are important to note.

In relation to candidate plasma biomarkers to detect cardiomyopathy in childhood cancer survivors, Aziz-Bose et al¹ stated that “92% of panelists agreed with obtaining cardiac biomarkers in asymptomatic left ventricular dysfunction,” but disagreements were observed concerning their adoption in other scenarios. We were intrigued as to the rationale for not discussing candidate plasma biomarkers to detect anthracycline-related cardiomyopathy in childhood cancer survivors. A case control study by Leerink et al³ highlighted the overlap of 3 specific

inflammatory proteins with dilated cardiomyopathy in a long-term childhood cancer survivor, recommending their use as candidate plasma biomarkers in this specific case of cardiomyopathy.

We do agree with Aziz-Bose et al¹ that future research must include an extension of the consensus methodology approach to comprise a panel of cardiologists with diverse areas of expertise, focusing on areas of novel technology, particularly artificial intelligence, and candidate plasma biomarkers. Additionally, the application of myocardial deformation imaging by speckle-tracking echocardiography ought to be considered for the assessment of cardiotoxicity in children both during and after chemotherapy.⁴

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The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the [Author Center](#).

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