International Guideline Harmonization Group for Late Effects of Childhood Cancer

IGHG Cardiomyopathy surveillance recommendations **2015**

General recommendation
Survivors treated with anthracyclines or chest radiation or both and their healthcare providers should be aware of the risk of cardiomyopathy.
Who needs cardiomyopathy surveillance? ***Anthracyclines***
Cardiomyopathy surveillance *is recommended* for survivors treated with high dose (≥250 mg/m2) anthracyclines.
Cardiomyopathy surveillance *is reasonable* for survivors treated with moderate dose (≥100 to <250 mg/m2) anthracyclines.
Cardiomyopathy surveillance *may be reasonable* for survivors treated with low dose (<100 mg/m2) anthracyclines.
Who needs cardiomyopathy surveillance? ***Chest radiation***
Cardiomyopathy surveillance *is recommended* for survivors treated with high dose (≥35 Gy) chest radiation.
Cardiomyopathy surveillance *may be reasonable* for survivors treated with moderate dose (≥15 to <35 Gy) chest radiation.
No recommendation can be formulated for cardiomyopathy surveillance for survivors treated with low dose (<15 Gy) chest radiation with conventional fractionation.
Who needs cardiomyopathy surveillance? ***Anthracyclines + Chest radiation***
Cardiomyopathy surveillance *is recommended* for survivors treated with moderate to high dose anthracyclines (≥100 mg/m2) and moderate to high dose chest radiation (≥15 Gy).
What surveillance modality should be used?
Echocardiography *is recommended* as the primary cardiomyopathy surveillance modality for assessment of left ventricular systolic function in survivors treated with anthracyclines or chest radiation.
Radionuclide angiography or cardiac magnetic resonance imaging (CMR) *may be reasonable* for cardiomyopathy surveillance in at-risk survivors for whom echocardiography is not technically feasible or optimal.
Assessment of cardiac blood biomarkers (e.g., natriuretic peptides and troponins) *is not recommended* as the only strategy for cardiomyopathy surveillance in at-risk survivors.
At what frequency should surveillance be performed for *high risk* survivors?
Cardiomyopathy surveillance *is recommended* for *high risk* survivors to begin no later than 2 years after completion of cardiotoxic therapy, repeated at 5 years after diagnosis and continued every 5 years thereafter.
More frequent cardiomyopathy surveillance *is reasonable* for *high risk* survivors.
Lifelong cardiomyopathy surveillance *may be reasonable* for *high risk* survivors.
At what frequency should surveillance be performed for *moderate and low risk* survivors?
Cardiomyopathy surveillance *is reasonable* for *moderate and low risk* survivors to begin no later than 2 years after completion of cardiotoxic therapy, repeated at 5 years after diagnosis and continue every 5 years thereafter.
More frequent cardiomyopathy surveillance *may be reasonable* for *moderate and low risk* survivors
Lifelong cardiomyopathy surveillance *may be reasonable* for *moderate and low risk* survivors.

At what frequency should surveillance be performed for survivors who are pregnant or planning to become pregnant?
Cardiomyopathy surveillance *is reasonable* before pregnancy or in the first trimester for all female survivors treated with anthracyclines or chest radiation.
No recommendations can be formulated for the frequency of ongoing surveillance in pregnant survivors who have normal left ventricular systolic function immediately before or during the first trimester of pregnancy.
What should be done when abnormalities are identified?
Cardiology consultation *is recommended* for survivors with asymptomatic cardiomyopathy following treatment with anthracyclines or chest radiation.
What advice should be given regarding physical activity and other modifiable cardiovascular risk factors?
Regular exercise, as recommended by the AHA and ESC, offers potential benefits to survivors treated with anthracyclines or chest radiation. Regular exercise *is recommended* for survivors treated with anthracyclines or chest radiation who have normal left ventricular systolic function. Cardiology consultation *is recommended* for survivors with asymptomatic cardiomyopathy to define limits and precautions for exercise.
Cardiology consultation *may be reasonable* for *high risk* survivors who plan to participate in high intensity exercise to define limits and precautions for physical activity.
Screening for modifiable risk factors (hypertension, diabetes, dyslipidemia and obesity) *is recommended* for all survivors treated with anthracyclines or chest radiation so that necessary interventions can be initiated to help avert the risk of symptomatic cardiomyopathy.

Publication

Armenian SH, Hudson MM, Mulder RL, Chen MH, Constine LS, Dwyer M, Nathan PC, Tissing W, Shankar S, Sieswerda E, Skinner R, Steinberger J, van Dalen EC, van der Pal HJ, Wallace WH, Levitt G, Kremer LCM. Recommendations for cardiomyopathy surveillance for survivors of childhood cancer: a report from the International Late Effects of Childhood Cancer Guideline Harmonization Group. The Lancet Oncology 2015;16:e123-136.