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EARLY DETECTION OF SUBCLINICAL EPIRUBICIN-INDUCED CARDIOTOXICITY USING TWO-DIMENSIONAL SPECKLE TRACKING ECHOCARDIOGRAPHY

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Objectives To assess the early subclinical epirubicin-induced cardiotoxicity during treatment of non-Hodgkin's lymphoma using two-dimensional (2D) speckle tracking echocardiography (STE).

Methods Thirty-six patients (15 male/21 female) aged 56.88 ± 9.76 with non-Hodgkin's lymphoma were included. Global longitudinal (GS), circumferential (CS) and radial strain (RS) were determined by 2D-STE before and 1 day after the last dose of epirubicin.

Results Despite normal LVEF, after chemotherapy, GS, CS and RS reduced from $-17.92 \pm 1.93\%$ to $-16.59 \pm 2.16\%$ ($p < 0.01$), from $-20.46 \pm 3.39\%$ to $-18.01 \pm 2.16\%$ ($p < 0.01$), and from $23.90 \pm 5.10\%$ to $21.86 \pm 6.03\%$ ($p > 0.05$) respectively. Among sex, age, cumulative doses of epirubicin (mg/m^2), cigarette smoking, hypertension and diabetes, hypertension was the only negative predictor of LS decrease ($p = 0.036$, 95% CI 0.03 to 4.06), and diabetes was the only negative predictor of CS decrease ($p = 0.009$, 95% CI 1.16 to 7.30).

Conclusions 2D-STE may help to detect Subclinical systolic myocardial abnormalities presented in asymptomatic non-Hodgin's disease patients shortly after epirubicin treatment.