

Abstract 127 Figure 1 Algorithm for the serial monitoring of LVEF in patients receiving anthracycline-based chemotherapies

In total, three patients developed impairment of left ventricular function post-chemotherapy due to anthracycline cardiotoxicity.

Discussion and conclusion We identified a significant lack of awareness on the monitoring strategies of patients receiving anthracycline-based chemotherapy possibly reflecting the lack of local guidelines. As a result, we introduced an algorithm that will guide the management of these patients (Fig 1).

In conclusion, our project has highlighted an area of clinical practice that requires effective communication and collaboration between different specialties. We strongly encourage clinicians to review their local practices and implement strategies to allow early identification and management of anthracycline-induced cardiotoxicity to prevent further morbidity and mortality.

128

ABNORMAL GLOBAL LONGITUDINAL STRAIN IS ASSOCIATED WITH ALL-CAUSE MORTALITY IN HAEMODIALYSIS PATIENTS

¹Diana Chiu, ²Darren Green, ²Phillip Kalra, ²Nik Abidin*. ¹NHS; ²Salford Royal Hospital; *Presenting Author

10.1136/heartjnl-2016-309890.128

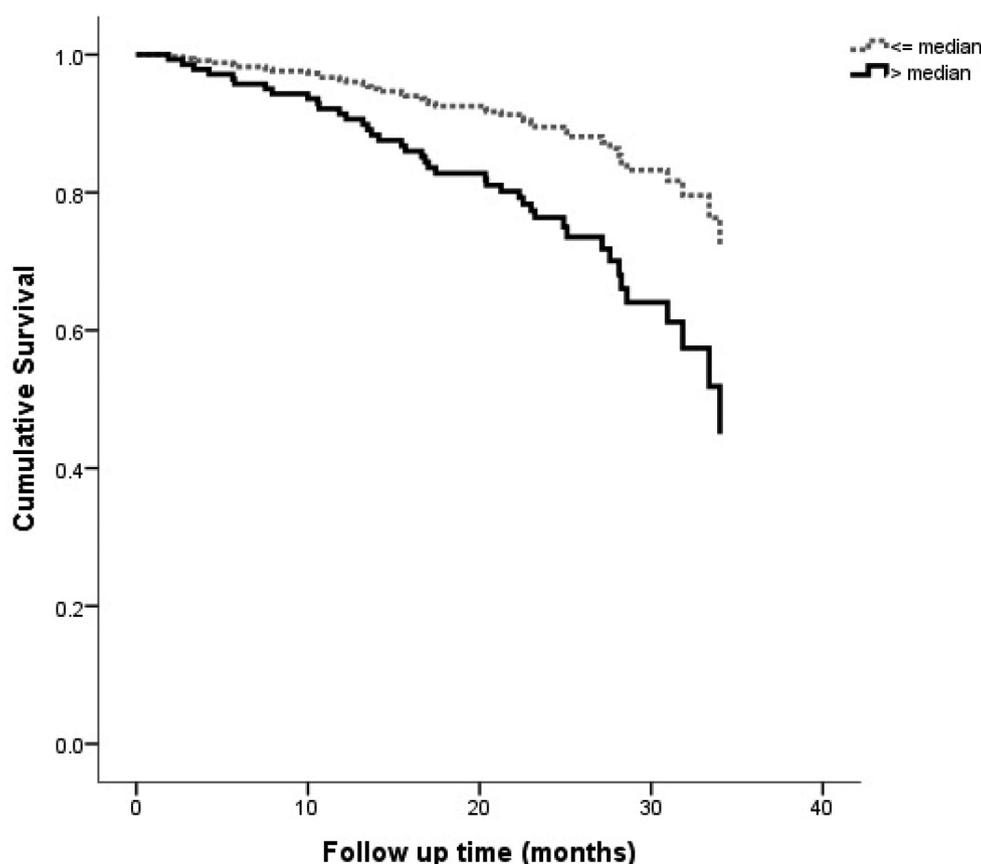
Introduction Cardiovascular mortality is high in end-stage renal disease patients undergoing haemodialysis (HD). Early detection of cardiac dysfunction is important. Left ventricular global longitudinal strain (GLS) measures the maximal shortening of myocardial longitudinal length during systole compared

to the resting length in diastole. Reduced GLS may reflect abnormal systolic function before loss of ejection fraction (EF) becomes apparent. We aimed to determine the prevalence, clinical correlates and prognostic value of abnormal GLS in stable HD patients.

Methods Clinical and echocardiographic data were obtained in a prospective study of HD patients at one centre. Survival analysis for GLS was performed using Cox regression adjusted for age, co-morbidities, dialysis chronicity, laboratory data, left ventricular mass index adjusted for height (LVMIHt^{2,7}) and Teicholz EF.

Results 199 patients had adequate speckle tracking images; the mean age was 62 ± 14 years, 69% were male, 39% had diabetes, 29% heart failure, 17% coronary artery disease. The mean GLS was $-13.4 \pm 3.5\%$, LV ejection fraction (LVEF) $63.8 \pm 12.9\%$ and LVMIHt^{2,7} $53.6 \pm 17.2\text{g/m}^{2.7}$. 98% of patients had abnormal GLS ($>-20\%$), compared with 14% with reduced LVEF ($<50\%$) and 55% with LV hypertrophy. Factors associated with an abnormal GLS included LVMIHt^{2,7} (OR 1.06, 95% CI 1.04–1.09, $P < 0.01$), LVEF (OR 0.96, 95% CI 0.94–0.99, $P < 0.01$) and diabetes (OR 2.04, 95% CI 1.08–3.9, $p = 0.03$). Median follow-up was 24 (17–30) months, during which there were 41 deaths (21%). After adjustment for age, diabetes, coronary artery disease, LVEF, LVMIHt^{2,7}, 3 month-averaged serum potassium and albumin, a less negative GLS remained an independent predictor of all-cause mortality (HR 1.18 for each 1% worsening change in GLS, 95% CI 1.03–1.35, $P = 0.02$). Figure 1.

Conclusions Abnormal GLS is highly prevalent amongst HD patients, and appears to be a better marker of all-cause



Abstract 128 Figure 1 Survival in \leq median versus $>$ median GLS (median = -13.7%)

mortality in stable HD patients than the standard echocardiographic parameters LVEF and LVMIHt^{2,7}.

129 IMPACT OF CARDIOVASCULAR MAGNETIC RESONANCE ON MANAGEMENT AND CLINICAL DECISION-MAKING IN ACUTE HOSPITALISED PATIENTS

Estefania De Garate*, Amardeep Ghosh Dastidar, Anna Baritussio, Alessandra Scatteia, Antonio Amadu, Giuseppe Venuti, Jonathan C Rodrigues, Chiara Bucciarelli-Ducci. *NIHR Bristol Cardiovascular Biomedical Research Unit, Bristol Heart Institute, Bristol, Avon, UK; *Presenting Author*

10.1136/heartjnl-2016-309890.129

Background Cardiac Magnetic Resonance (CMR) is a valuable tool in the assessment of both ischaemic and non-ischaemic heart disease. The use of CMR in chronic cardiac conditions has already been demonstrated. However, evidence of the impact of CMR on the clinical management on the acute phase of hospital care, is scarce. We sought to evaluate the impact of CMR on diagnosis and clinical decision-making in acute hospitalised patients.

Methods We looked at the 1 year registry data of 2481 consecutive scans (Jan 2014-Dec2014) at a large tertiary cardiothoracic center and identified 283 patients referred for inpatient CMR scan. CMR protocol included short axis and long axis cines, T2 weighted oedema sequences, early and late gadolinium enhancement (LGE) images. Definitions for “significant clinical impact” of CMR were pre-defined and data was collected from clinical records. Categories of significant clinical

impact included change in pre-CMR diagnosis, influence on hospitalization period, change in medication, as well as influence on invasive medical procedures such as CABG, angiography and ICD implantation.

Results Of the 283 patients, 8 (2.8%) were excluded due to poor image quality and/or incomplete scans, leaving a sample of 275 patients (66% male, mean age 59yrs) with mean ejection fraction of 46% \pm 19.

Overall, CMR had a significant clinical impact on 68% of the patients. This included a completely new diagnosis in 27% of the patients, change in management in 31% and a total of 10% of patients had both a new diagnosis and a change in management (see Figure 2). CMR results led to invasive procedures on 27%, avoided invasive procedures on 16%, and had an influence on hospital discharge on 15% of the patients. 84% of the patients had echocardiography prior to CMR. CMR confirmed the echo diagnosis in 11%, complemented the echo findings by adding significant new information in 41% and changed the diagnosis made on echo in 30% of the cases.

In a multivariable model that included clinical and imaging parameters, age and presence of LGE were the only independent predictor of “significant clinical impact” (LGE p-value. 0.07, OR 2.782, CI 1.328–5.828) (see Figure 1).

Conclusions CMR had a significant clinical impact on both management and diagnosis in 68% of acutely hospitalised patients. The presence of LGE was the best independent predictor of significant clinical impact following CMR.