Abstract 53 Table 1 Device implantation according to device

Device	PPM	ICD	CRT-P	CRT-D	Device upgrade	Total
Number implanted	705	339	129	246	66	1419
Pneumothorax (%)	13 (1.8)	4 (1.25)	2 (1.6)	0	0	19 (1.3)
Lead displacement						
Patients (%)	31(4.4)	20(5.9) ⌘	2 (1.6)	13 (5.3)	3 (4.5)	68 (4.8)
RA	13* (1.8)	8 (2.3)	0	4 (1.6)	1 (1.5)	26 (1.8)
RV	22" (3.1)	13 (3.8)	0	2 (0.8)	0	37 (2.6)
LV	0		2 (1.6)	7 (2.8)	2 (3)	11 (0.8)
Wound problem						
Haematoma (%)	3 (0.4)	1 (0.3)	0	0	0	4 (0.3)
Infection (%)	2 (0.3)	4$ (1.2)	0	1 (0.4)	1 (1.5)	8 (0.6)
Painful pocket (%)	1 (0.1)	2 (0.6)	0	1 (0.4)	0	4 (0.3)
Effusion						
Conservatively managed	4 (0.6)	0	0	0	1 (1.5)	5(0.35)
Tamponade (requiring drain)	1 (0.1)	0	0	0	0	1(0.07)

*One patient had RA lead reposition followed by RA lead replacement
"One patient had RV lead reposition followed by RV lead replacement
⌘One patient had both RA and RV lead displacement, both repositioned at the same procedure
$includes 2 post lead revision and 1 post new system post extraction

bradyarrhythmias, loss of pacing function when pacing-dependent or inappropriate defibrillator shocks. The were no device-related deaths or complications requiring ITU level care.

Conclusion Same day discharge appears safe in an unselected population of patients undergoing elective primary implantation of a CRM device at a high-volume cardiothoracic unit. Procedural difficulties, symptoms or signs suggestive of a potential complication should prompt further evaluation, and all patients should undergo device interrogation and chest radiography prior to discharge.

54 MEASURES OF ENDOTHELIAL DYSFUNCTION PREDICT RESPONSE TO CARDIAC RESYNCHRONISATION THERAPY

[1]David Warriner*, [2]Ryan Crapper, [1]Patricia Lawford, [3]Paul Sheridan. *[1]Sheffield University; [2]Sheffield Teaching Hospitals; [3]Chesterfield Royal Infirmary; *Presenting Author*

10.1136/heartjnl-2016-309890.54

Background Cardiac resynchronisation therapy (CRT) improves morbidity and mortality in heart failure (HF). Impaired endothelial function, as measured by flow mediated dilation (FMD) is associated with increased morbidity and mortality in heart failure (HF) and may help to differentiate responders from non-responders.

Methods FMD was measured at baseline and 12 months following CRT. The patient group were 94% male, mean age 69 ± 8 years, New York Heart Association (NYHA) functional class II-IV, QRSd 173 ± 21 ms and had a left ventricular ejection fraction (LVEF) 26 ± 8%.

Results 70% of patients were found to have responded at 12 months. Responders had significant improvements in VO_2 (12.6 ± 1.7 to 14.7 ± 1.5 ml/kg/min, $p < 0.05$), quality of life score (43 ± 23 to 24 ± 22, $p < 0.01$), left ventricular end diastolic volume (210 ± 125 ml to 173 ± 125 ml, $p < 0.01$), NT-proBNP (2422 ± 829 ml to 1732 ± 976 ml, $p < 0.01$ and 6 min walk distance (379 ± 117 m at baseline to 418 ± 105 m, $p < 0.05$). Baseline FMD in responders was 2.9 ± 1.9% and 7.4 ± 3.73% in non-responders ($p < 0.05$).

Conclusions This confirms that FMD identifies response to CRT, due to endothelium dependent mechanisms alone.

55 EVALUATION OF POTENTIAL CLINICAL RESPONSE AND CARDIOVASCULAR OUTCOMES PREDICTORS IN A TERTIARY CARDIAC RESYNCHRONISATION THERAPY IMPLANTATION CENTRE

Christopher McAloon*, Dominic Heining, Gavin Atherton, Benjamin Anderson, Harpal Randeva, Paul O'Hare, Faizel Osman. *University Hospital Coventry and Warwickshire; *Presenting Author*

10.1136/heartjnl-2016-309890.55

Background Cardiac Resynchronisation Therapy (CRT) is an effective treatment for dys-synchronous chronic heart failure (CHF), however there is a significant non-response rate. Clinic predictors of response and cardiovascular outcome are often inconsistently reported. The aim of the study was to examine previously reported clinical predictors of response and cardiovascular outcomes in a heterogeneous CHF patients undergoing CRT implantation at a UK tertiary centre.

Methods A retrospective single-centre cohort study of all consecutive CRT implantations (147 (49.0%) CRT-p; 153 (51.0%) CRT-d) performed over 5 years (Jan 2009–Dec 2013). Implants had to meet eligibility criteria; successful implant, follow-up case records availability and clinical response determination. Clinical response was defined by three independent reviewers as a New York Heart Association classification symptom reduction > 1 class or class I maintenance from pre-

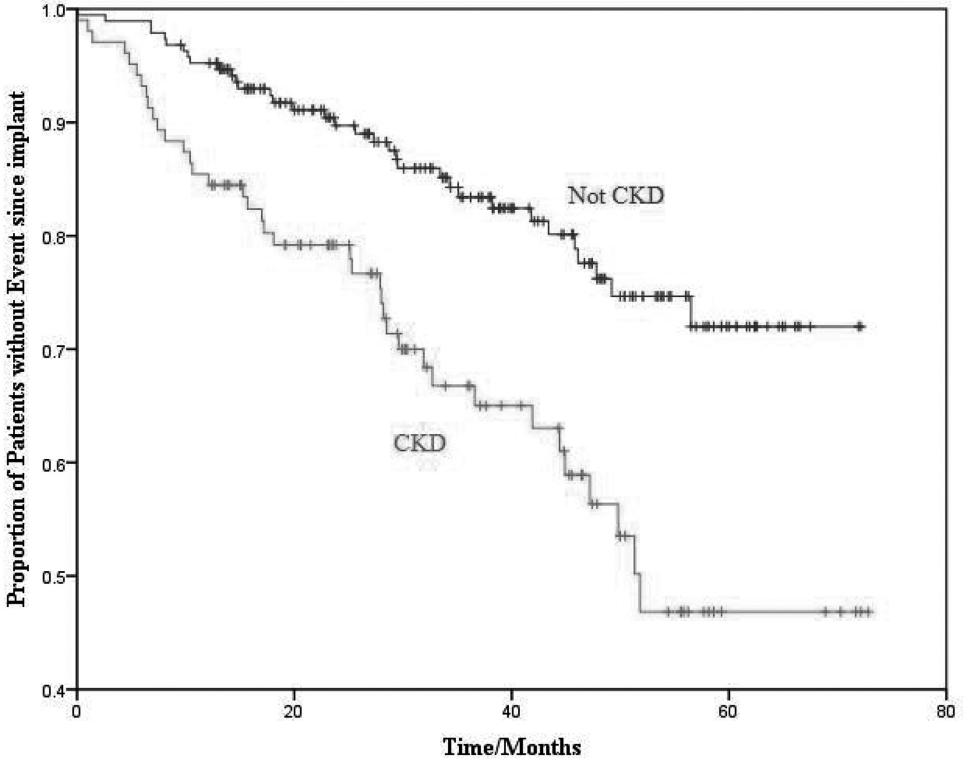
implant to the most recent cardiology/heart failure consultation. Major Adverse Cardiovascular Events (MACE), defined as all-cause mortality or first heart failure hospital admission, was recorded independently of clinical response. Pre-identified potential clinical predictors (Table 1) were analysed to determine ability to predict response and MACE.

Results A cohort of 300 (mean age 71.5 years ± 10.1; 227 (75.7%) males) had clinical response definable (158 (52.7%) responders; 142 (47.3%) non-responders) at a median of 12.0 (± (IQR) 4.38–25.5) months. Baseline cohort characteristics were: 171 (59.0%) ischaemic aetiology; 72 (28.0%) AF; 75 (25.9%) Diabetes; 103 (25.3%) Chronic Kidney Disease (CKD); Electrocardiogram: QRS 154mesc (± 144–172); 186 (71.8%) LBBB; Echocardiogram 24.1% (± (SD)8.3) LVEF. Multivariate logistic regression (Table 1) of pre-defined parameters of overall clinical response demonstrated increasing age at implant predicted a poorer response (OR 0.96, *p*0.002, CI (95%) 0.94–0.99). CKD status trended towards predicting long-term (>12 weeks) clinical response (OR 0.58, *p*0.06, CI (95%) 0.33–1.01). Figure 1 shows the survival curve demonstrating significantly higher all-cause mortality rate for those with CKD at implant ($p < 0.001$). Multivariate Cox regression demonstrated that CKD status predicted increased MACE (HR 2.10, p0.001, CI (95%) 1.23–3.19) and all-cause mortality (HR 2.06, $p < 0.007$, CI (95%) 1.22–3.46) following CRT implantation.

Abstract 55 Table 1 Univariate and multivariate logistic regression of potential predictors of overall clinical response

	Univariate Regression			Multivariate Regression		
Predictor	**Odds Ratio**	**p Valve**	**Confidence Interval (95%)**	**Odds Ratio**	**p Valve**	**Confidence Interval (95%)**
Age at implant	0.97	0.00	0.94–0.99	0.96	0.002	0.94–0.99
Gender	0.96	0.88	0.57–1.63			
Device	1.41	0.14	0.90–2.22			
Upgrade Status	0.54	0.03	0.31–0.95	0.57	0.05	0.32–1.01
QRS Duration	0.87	1.00	0.99–1.01			
LBBB	1.42	0.20	0.84–2.42			
LVEF	0.98	0.21	0.95–1.01			
Aetiology	1.18	0.50	0.74–1.87			
Diabetes Mellitus	0.84	0.53	0.50–1.43			
CKD	0.60	0.04	0.37–0.97			
Days from Implant to Response Assessment	1.00	0.13	0.99–1.00	0.99	0.03	0.99–1.0

Conclusion Increasing age at implant predicts poorer overall clinical response. CKD status predicts increased MACE and all-cause mortality events following CRT.



Month	0	20	40	60
CKD	103	73	34	5
Not CKD	189	141	76	18

Abstract 55 Figure 1 Survival curve for CKD status at CRT implantation and all-cause mortality ($p < 0.001$)