Patients were 13% older than controls ($p<0.01$). Subjects from all groups of less than 70 years had significantly increased PR shortening (mean difference -9.1 ms, $p=0.02$) and change in HR (mean difference 15.7 ms, $p<0.001$) between rest and peak than those over 70 years. Patients had significantly higher Body Mass Indices (BMI) than hypertensive or healthy subjects ($H=-3.6$, $p=0.02$, $H=-3.5$, $p=0.003$ respectively), as did breathless controls ($H=3.1$, $p=0.012$, $H=2.8$, $p=0.027$).

Conclusions Patients with HFpEF have chronotropic incompetence and impaired HR recovery, but there was no evidence of dromotropic incompetence in this study.

17 OUTCOMES OF RECIPIENTS WITH NON-ISCHAEMIC HEART DISEASE AFTER HEART TRANSPLANTATION

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Objective The aim of study was to estimate outcomes of recipients with non-ischaemic chronic heart failure (CHF) after heart transplantation (HT).

Methods From 2010 to 2016 we heart transplanted 80 recipients: 52.5% ($n=42$) – with non-ischaemic CHF (mean age -38.3 ± 2.2 years, $n=4$ children (mean age -13.5 ± 2.6 years)), 47.5% ($n=38$) – with ischaemic heart disease (IHD). Causes of CHF (mean LVEF $-20.9\pm1.8\%$) in non-ischaemic group: dilated cardiomyopathy (61.9%, $n=26$), non-compacted myocardium (21.4%, $n=9$), rheumatic heart disease (4.8%, $n=2$), arrhythmogenic right ventricular dysplasia (7.1%, $n=3$) and others ($n=1$ cardiac amyloidosis, $n=1$ cardiac sarcoidosis). Furthermore, 19% ($n=8$) of them were supported by biventricular assist device Berlin Heart EXCOR (duration on support -234 ± 80 days) prior HT. According to right heart catheterization results: pulmonary arterial systolic pressure (PASP) 39.9 ± 1.9 mmHg, pulmonary vascular resistance (PVR) -2.9 ± 0.2 W.U. Pulmonary hypertension was diagnosed in 66.7% ($n=28$) recipients. There was no difference in how much time patients spent in HT waiting list (158.9 ± 23.8 days vs. 152.4 ± 29.4 days, $p>0.05$). All recipients treated by triple-drug therapy (steroids, calcineurin inhibitors, mycophenolic acid), induction: basiliximab -62% ($n=26$), thymoglobulin -38% ($n=16$). Outcomes of HT were estimated by survival, TTE results, frequency of rejection, frequency of cardiac allograft vasculopathy (CAV) and cardiopulmonary exercise test results.

Results After 6 year follow-up survival was comparable with IHD recipients (30.4 ± 3.1 months vs. 27.3 ± 4.2 months, $p>0.05$), but mortality during 1st yr after HT was higher in IHD group (7.1% vs. 13.1%, $p<0.001$). After HT non-ischaemic patients spent less time in ICU (9.3 ± 0.9 days vs. 11.5 ± 1.6 days, $p>0.05$), the same as required inotrope support (6.1 ± 0.6 days vs. 8.5 ± 1.4 days, $p<0.05$). Only 9.5% ($n=4$) of recipients had severe right heart failure and required extracorporeal membrane oxygenation (ECMO) support, 7% ($n=3$) – underwent tricuspid valve repair due to severe tricuspid regurgitation. Levosimendan treatment was successfully used in 33.3% ($n=14$) patients. In 1 case thoracoscopic pericardial fenestration performed. In 6 months after HT TTE

results got to normal values: LVEF $-60.6\pm0.9\%$, PASP -31.1 ± 1.3 mm Hg; results were stable even in 1 year. During 1st yr rejection was found: R2/3A -9.5% ($n=32$), AMR1 -2.1% ($n=7$). Also in 1 year after HT recipients from non-ischaemic group significantly improved their physical capacity ($VO_{2peak} - 11.7\pm0.4$ ml/min/kg vs. 17.8 ± 0.6 ml/min/kg, $p<0.001$). CAV was diagnosed in more than 1 year of follow-up. Furthermore, frequency of CAV was more often in IHD group (9.5% ($n=4$) vs. 13.2% ($n=5$), $p<0.05$).

Conclusion After HT survival and complications are comparable in recipients with IHD and non-ischaemic group.

18 UPGRADE TO DEFIBRILLATOR IN PATIENTS RECEIVING CARDIAC RESYNCHRONISATION THERAPY PACEMAKERS

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Introduction In patients with advanced cardiac failure, the choice between CRT with (CRT-D) or without a defibrillator (CRT-P), remains a contentious issue. There is insufficient evidence from randomised controlled trials and guidelines do not make any firm recommendations. This leaves room for physician discretion and has led to wide variation in worldwide practice.

Study aim and basic methods The focus of our study was to evaluate the characteristics of CRT-P patients in the real world setting and analyse how many patients with CRT-P implant required an upgrade to CRT-D in the follow-up period.

This was a retrospective single centre observational study looking at 122 patients implanted with CRT from 2011 to 2015. Data was collected from patient electronic records and follow-up visits. The median follow-up duration was 2.2 (1.2–3.3) years. Data was analysed using Microsoft excel and SPSS.

Results 1. The patients implanted with CRT-P were elderly, had more advanced heart failure with multiple co-morbidities and mostly females.

2. Only 3 out of 122 patients (2.5%) were upgraded from CRT-P to CRT-D. All these patients were males, above 75 years of age with a primary prevention indication for CRT-D and had upgrade following episodes of symptomatic ventricular tachycardia (Figure 1).

	Upgrade	CRT-P
Number of patients	3	122
Mean Age in yrs	77.3	79.2
Female	None	24%
Ischaemic heart disease	33%	48%
Dilated cardiomyopathy	67%	51%

Abstract 18 Figure 1 Clinical profile of upgraded patients compared to rest of the CRT-P population

3. The main cause of mortality in patients implanted with CRT-P was non-cardiac vs. cardiac (5.7% vs. 15.6%, p value <0.001). Majority of deaths in the cardiac group were due to pump failure. Only 10% of patients in this group had documented non sustained ventricular arrhythmias.

Conclusion In our study population, the number of CRT-P patients who needed upgrade with additional defibrillator was