Late gadolinium enhancement (LGE) was performed 15 min following administration of 0.15 mmol/kg gadolinium DTPA. CMR data were analysed quantitatively using commercially available software (CVI42, Circle Cardiovascular Imaging Inc. Calgary, Canada and inTag v1.0, CREATIS lab, Lyon, France). Endocardial and epicardial contours were drawn on SPAMM sequences using a semi-automated process. Peak circumferential LV strain (E_{cc}) was measured at apex, mid-ventricle, and base. LV twist was calculated by subtracting basal from apical rotation. Torsion was determined by: Torsion = Peak Twist x (Apical Radius+Basal Radius)/2xApex to Base length

Results The two groups were comparable for baseline demographics (Table 1). The ICM group had significantly more prior revascularisation (CABG/PCI). There was no significant difference between the 2 groups in both LV dimensions and LVEF, however ICM had significantly more LGE (Table 2). There was no significant difference between the 2 groups in E_{cc}. NICM patients had significantly lower LV twist and torsion compared to the ICM group 6.0±3.68° vs 8.8±4.32° p=0.020 and 6.3±3.79° vs 8.8±4.69° p=0.048 respectively.

Conclusion Despite similar EF and E_{cc}, patients with NICM had significantly less LV torsion than ICM. Myocyte dysfunction in ICM is more sub-endocardial due to the wave-front of ischaemia and more global in NICM. Relative perseveration of LV torsion of ICM over NICM is likely a result of sparing of sub-epicardial fibres and an increased compensatory recruitment of sub-epicardial fibres that are predominantly responsible for LV torsion. Recognition of different torsion patterns of ICM and NICM gives insight into aetiology of CHF, which may assist patient diagnosis and management, especially in those unable to have contrast agents.

Abstract 105 Table 1 Demographics

	ICM	NICM	P-value
Age, years	65.2±15.9	59.0±16.9	0.182
Sex (female)%	29	36	0.582
BMI kg/m^2	26.9±3.9	27.6±5.6	0.654
SBP, mmHg	119±21	115±18	0.399
DBP mmHg	70±11	72±11	0.601
Diabetes Mellitus,%	19	4.5	0.195
CABG,%	32	0	0.03
PCI,%	55	0	<0.001
AF,%	65	64	0.949

Abstract 105 Table 2 CMR characteristics

	ICM	NICM	P value
LVEDV, ml	199.4±56.7	226±113.9	0.264
LVEDVi, ml/m^2	104.9±30.5	115.3±48.5	0.343
LVEF,%	35.1±10.6	36.0±11.7	0.767
LV twist, °	8.8±4.32	6.0±3.68	0.023
LV torsion, °	8.8±4.69	6.3±3.79	0.048
E_{cc} Apex	−0.101±0.646	−0.101±0.739	0.689
E_{cc} Mid	−0.103±0.068	−0.107±0.066	0.828
E_{cc} Base	−0.082±0.068	−0.114±0.048	0.064
LGE, n/(%)	21/31 (68%)	3/22 (14%)	<0.001

106 NEW SERVICE: A CARDIAC PHYSIOLOGIST MANAGED EXERCISE STRESS ECHO

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Background National institute for health and clinical excellence (NICE) recommends functional assessment for patients presenting with chest pain of recent origin (CPRO), who have intermediate probability for coronary heart disease (CAD). Exercise stress echocardiography (SE) is a well established, reliable and safe method for assessment of ischaemic heart disease. The exercise stress ECHO service has traditionally been a consultant cardiologist led service (CCSE). But with increasing pressure of demand and to cut waiting times a cardiac physiologist managed exercise stress echocardiography service (CPSE) was started in May 2014 in a district general hospital, as per the British cardiac society protocol 2003. Patients are usually referred from the chest pain clinic. All requests are screened by a consultant cardiologist and test and reporting performed independently by British Society of Echocardiography accredited experienced senior cardiac physiologist, who has also had departmental assessment with direct consultant supervision and review. The team includes 2 physiologist (1st -sonographer, operator and reporter, 2nd assistant (ECG) and cardiac nurse (BP, Contrast)

Methods A retrospective cohort study comparing data collected from Feb 2013 to March 2014 for consultant led (CCSE) and from May 2014–June 2015 for cardiac physiologist led (CPSE) was performed. Patients with positive stress

Abstract 106 Table 1

	Consultant led (n=172)	Cardiac physiologist (n=162)	p value
Males	90	91	0.51
Av age (yrs.)	60	60	
Indications	120	108	0.05
1) Chest pain of recent origin	38	35	1.0
2) assess ischaemic burden	6	9	0.40
3) Shortness of breath	8	10	0.60
4) Other			
Adverse events during test	19	13	0.36
1) ST depression	3	0	0.24
2) Tachycardia	3	8	0.12
3) Bradycardia	2	0	0.49
4) Vasovagal episode	1	1	1.00
5) ST elevation	1	1	1.00
6) Hyper/Hypotension			
Image quality	123	126	0.20
1) Diagnostic, all regions in all views	35	27	0.40
2) Diagnostic, all regions, not in all views	13	9	0.65
3) Non diagnostic, not all regions seen, able to complete test	1	0	
4) Non diagnostic, unable to perform test			

tests underwent coronary angiography. Patients were followed up from 6–18 months in both groups

Results During the study period there were 172 patients in the CCSE and 162 in the CPSE group. Majority were referred for CPRO (120 vs.108, p=0.5). Image quality was similar in both groups (p=0.20). The number of positive stress test was CCSE 20 vs. CPSE 18 (p=0.09) (Table1). Coronary angiography was performed in 18 patients in both groups, of which 15 had positive tests (Two patients were not investigated further in CCSE group as decision made by consultant for medical management only). Sensitivity and specificity was 73% and 100% in the CCSE vs. 83% and 78% in CPSE group. Territory correlation was similar in both groups. During the follow up period none of the patients with negative test result in the CCSE group had a coronary angiogram, while 9 patients in CPSE group had a coronary angiogram. Of these only 2 were positive and 7 were negative, thus giving a specificity of 78% (Table 2).

Abstract 106 Table 2 Chest pain of recent origin positive tests

	Consultant led (n=172)		Cardiac physiologist (n=162)	
	CPRO positive stress (n=20)	Negative stress	CPRO positive stress (n=18)	Negative stress
Positive Angiogram	15	0	15	2
Normal Angiogram	3	0	3	7
No Angiogram	2	0	0	0
Sensitivity (%)	73		83	
Specificity (%)	100		78	
Territory co-relation 1) Correct 2) Incorrect	13 2		13 2	

Conclusion A cardiac physiologist managed exercise stress echo service (managing and reporting the test independently) has high sensitivity and specificity. It is a safe and effective way to manage patients referred with CPRO. This will help reduce waiting times and improve efficiency of the service.

Though, it's hindered by a lack of clinical decision making process on the day, which may warrant further investigation by the non-specialist.

107 THE LONG TERM PROGNOSTIC VALUE OF DIPYRIDAMOLE STRESS MYOCARDIAL CONTRAST ECHOCARDIOGRAPHY IN COMPARISON WITH SINGLE PHOTON EMISSION TOMOGRAPHY IN PATIENTS WITH KNOWN OR SUSPECTED CORONARY ARTERY DISEASE

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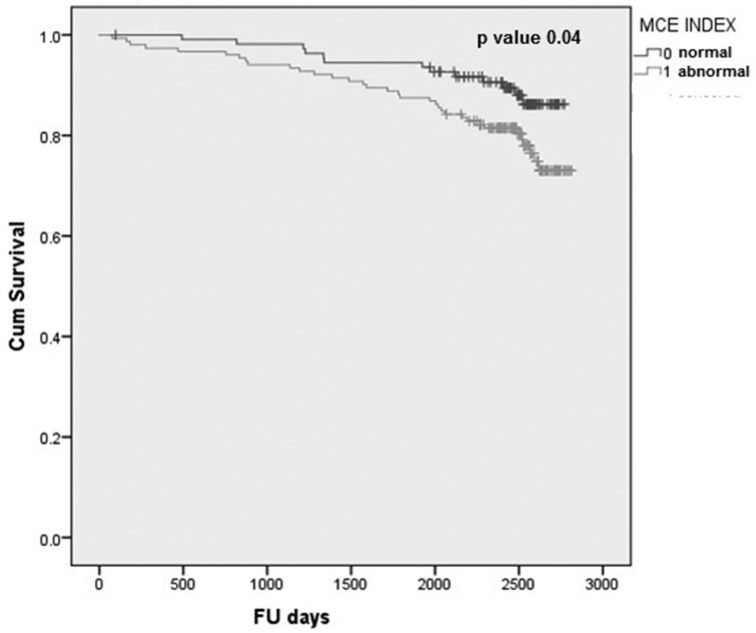
Background Single photon emission computed tomography (SPECT) is a well-established method to evaluate patients with coronary artery disease (CAD). Myocardial contrast echocardiography (MCE) is an imaging technique that allows assessment of myocardial perfusion in a real-time setting. Very short term prognostic study has shown that vasodilator MCE is superior to SPECT for the prediction of hard events. We sought to investigate the long term prognostic value of SPECT and MCE in the assessment of patients with known or suspected CAD.

Methods We retrospectively followed-up patients with suspected or known CAD who were scheduled for coronary angiography and who also underwent MCE and SPECT at our



Abstract 107 Figure 1 Kaplan-Meier curve showing the long term prognostic value in predicting all cause-morality and NFMI for normal versus abnormal MCE