

**Abstract 96 Table 2** Predictors of clinical outcomes in patients with preserved EF

	Preserved EF			
	Univariate		Multivariate	
	HR (95%CI)	P value	HR (95%CI)	P value
Age	1.06 (1.01- 1.11)	<u>0.011</u>	1.02 (0.97- 1.07)	0.39
Male	0.58 (0.19- 1.77)	0.34	-	
Diabetes	4.84 (1.58- 14.8)	<u>0.006</u>	3.00 (0.94- 9.26)	0.063
HTN	4.25 (1.17- 15.4)	<u>0.028</u>	2.56 (0.68- 9.62)	0.16
Normal kidney function	0.10 (0.03- 0.30)	<u>&lt;0.001</u>	0.18 (0.06- 0.60)	<u>0.005</u>
Anterior STEMI	1.76 (0.54- 5.37)	0.35	-	
Troponin*	1.00 (0.98- 1.02)	0.98	-	

\*Per 100 ng/dL increase

There were differential independent predictors of primary endpoint between mrEF and preserved EF (table 1&2). Normal kidney function was associated with better clinical outcomes in both EF categories.

**Conclusion** Patients presenting with STEMI and mrEF carried an intermediate risk over long term follow up. Further studies are required to assess if their risk is modifiable but importantly the mrEF group should not be considered as low risk patients

**Conflict of Interest** None

## Stable IHD/Prevention/Hypertension/Lipids

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### ASSOCIATION BETWEEN HYPERTENSIVE DISORDERS OF PREGNANCY AND LATER RISK OF CARDIOVASCULAR OUTCOMES

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**Introduction** Hypertensive disorders of pregnancy, especially pre-eclampsia, are associated with greater cardiovascular disease risk. However, the risk of specific cardiovascular outcomes associated with pre-eclampsia or gestational hypertension is unclear.

**Methods** Cox regression analysis compared rates of 19 cardiovascular outcomes in women with and without a history of pre-eclampsia and gestational hypertension, using electronic health records from women with one or more live births in England, 1997–2015.

**Results** The cohort comprised 6,333,053 women, 276,389 and 223,715 pregnancies were complicated by gestational hypertension and pre-eclampsia, respectively. During 61.7 million person-years of follow-up, the incidence of any cardiovascular events for normotensive women, women with prior gestational hypertension and women with prior pre-eclampsia were: 39.95/100 000 person-years [95% CI, 39.05–40.87] (no. of CVD events=7,474), 62.24/100 000 person-years [95% CI, 56.67–68.20] (no. of CVD events= 469), and 73.72/100 000 person-years [95% CI, 67.20–80.71] (no. of CVD events=469), respectively. Compared with women with normotensive pregnancies, there was a greater risk of any cardiovascular event for women with previous gestational hypertension, adjusted HR (aHR) = 1.45 (1.31, 1.61), and pre-eclampsia, aHR = 1.69 (1.53–1.87). A history of gestational hypertension was most strongly associated with cardiomyopathy, aHR = 2.10 (1.52–2.89), and ischemic stroke, aHR = 1.79 (1.36–2.35). Women with two or more pregnancies with gestational hypertension were at greatest risk of stroke, aHR = 2.61 (1.91, 3.57), specifically ischemic stroke, aHR = 3.47 (2.38, 5.06). Women with a history of pre-eclampsia were at greatest risk of acute myocardial infarction, aHR = 3.08 (2.27, 4.16), and cardiomyopathy, aHR = 2.43 (1.78–3.31). Two or more pregnancies with pre-eclampsia was most strongly associated with ischemic stroke, aHR = 3.80 (2.53, 5.73) and acute myocardial infarction, aHR = 3.18 (1.91, 5.28).

**Conclusions** This is the first study to compare the risk of a spectrum of CVD events for women with pre-eclampsia or gestational hypertension. Women with either previous gestational hypertension or pre-eclampsia are at increased risk of a range of cardiovascular outcomes compared to women with

normotensive pregnancies. Associations were stronger with pre-eclampsia than gestational hypertension, and increased with a greater number of affected pregnancies. Gestational hypertension was most strongly associated with strokes, in particular ischemic stroke, and pre-eclampsia was most strongly associated with acute myocardial infarction and cardiomyopathy.

**Conflict of Interest** None

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### NON-SPECIFIC CHEST PAIN HOSPITAL ADMISSIONS AND READMISSIONS FOR SERIOUS CARDIOVASCULAR EVENTS IN THE UNITED STATES

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**Introduction** Chest pain is one of the most common reasons for presentation to hospital. The objective of the evaluation of patients with chest pain is to identify acute coronary syndrome (ACS) and other serious cardiovascular conditions. However, diagnostics may not be 100% sensitive or specific, and important diagnoses may be missed during initial admission. No prior national study has evaluated readmission for serious cardiovascular events among the cohort of patients who are discharged with a diagnosis of non-specific chest pain.

**Methods** We conducted an analysis of patients with a primary diagnosis of non-specific chest pain in the Nationwide Readmission Database. We determined the rates, trends and predictors of readmission for serious cardiovascular events (ACS, pulmonary embolism (PE) and aortic dissection (AD)) after an inpatient episode. Multiple logistic regressions were used to identify predictors of readmission for ACS, PE and AD and the cost of the readmissions were determined.

**Results** A total of 1,172,430 patients had an index diagnosis of non-specific chest pain between 2010 and 2014. Readmission for ACS, PE and AD were 2.4%, 0.4% and 0.06%, respectively within 6 months of discharge. Variables associated with ACS readmissions were diabetes (OR 1.49 95%CI 1.17–1.32), coronary artery disease (OR 2.29 95%CI 2.15–2.44), previous percutaneous coronary intervention (OR 1.65 95%CI 1.56–1.75), previous coronary artery bypass graft (OR 1.52 95%CI 1.43–1.61) and discharge against medical advice (OR 1.94 95%CI 1.78–2.12). Female patients (OR 0.82 95%CI 0.78–0.86) and patients in whom a coronary angiogram was

undertaken (OR 0.48 95%CI 0.45–0.52) were less likely to have a readmission for ACS. Predictors of PE readmission were pulmonary circulatory disorder (OR 2.20 95%CI 1.09–4.43), anaemia (OR 1.62 95%CI 1.40–1.86) and cancer (OR 4.15 95%CI 3.43–5.02). Predictors of AD readmissions were peripheral vascular disease (OR 8.63 95%CI 5.47–13.60) and renal failure (OR 2.08 95%CI 1.34–3.24). There were approximately 5,586 ACS readmissions, 950 pulmonary embolism readmissions and 113 aortic dissection readmissions in our study cohort and the estimated financial impact was \$99 million, \$17 million and \$3.5 million dollars of healthcare expenditure for ACS, PE and AD, respectively.

**Conclusion** Readmissions for serious cardiovascular disease following admission for non-specific chest pain are not uncommon and its financial burden can be significant accounting for approximately \$120 million dollars of healthcare expenditure in the United States between 2010 and 2014. Clinicians should be careful to appropriately investigate, risk stratify and tailor services to better manage patients with non-specific chest pain.

**Conflict of Interest** None

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### HYPERTENSION OR HYPERTROPHIC CARDIOMYOPATHY? USING CARDIOVASCULAR MAGNETIC RESONANCE IMAGING TO UNMASK THE GREAT IMITATOR

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**Background** Structural cardiac adaptations caused by hypertension present a diagnostic challenge when differentiating from hypertrophic cardiomyopathy (HCM), using traditional imaging techniques such as echocardiography (echo). Cardiac magnetic resonance imaging (CMR) offers reproducible anatomical, functional quantification as well as myocardial tissue characterisation which discriminates between hypertension and HCM.

**Purpose** To identify hypertensive individuals with undiagnosed HCM using CMR imaging.

**Methods** 100 consecutive African Caribbean (AC) and Caucasian hypertensive patients underwent CMR at a tertiary centre dedicated blood pressure clinic (55% male, mean age 51 years). In keeping with ESC guidelines, end diastolic wall thickness (EDWT) 15mm identified individuals within the “grey zone” between hypertension and with a potential HCM

**Abstract 99 Table 1** p-values for CMR data in hypertensive (HTN), gray zone hypertensive (GZH) and hypertrophic cardiomyopathy (HCM) cohorts

CMR Parameter	HCM vs, HTN	GZH vs. HTN	GZH vs. HCM
EDVI	NS	P=0.025	NS
EDWT	P=0.0002	P<0.0001	NS
LVMI	P=0.0004	P<0.0001	NS