more commonly observed in individuals who died during exertion (56% compared with 34% in the group who died at rest, p=0.08). Younger individuals between 10–15 years of age died mostly during exercise (80%), in other age groups death occurred mainly at rest (33% in age group 16–20 years, 30% in age group 21–25 years, 33% in age group 26–30 years) (Figure 1B).

Conclusion We observed a high age-related variability in terms of circumstances of death. In the context of HCM, our findings suggest that individuals aged 10–15 years are the most vulnerable in terms of exercise-related-SCD. This exemplifies the importance of preventative cardiac screening in young individuals who might be harbouring quiescent cardiac conditions associated with young SCD.

Conflict of Interest None

13 THE LONG-TERM EFFECTS OF ADIPOSE DEPOT CHANGE FOLLOWING BARIATRIC SURGERY ON CARDIAC GEOMETRY

Introduction Total body adipose volume is associated with left ventricular (LV) dilatation (due to increased intravascular volume and cardiac output) while visceral adipose tissue (VAT) is associated with smaller LV cavity size and concentric remodeling (because of insulin resistance). We therefore hypothesised that changes in VAT and total body weight during weight loss would have a differential impact on cardiac geometry. Furthermore, changes in epicardial adipose tissue (EAT), may have an additional mechanical effect by reducing pericardial restraint. We therefore sought to investigate long term changes in VAT, total weight and EAT following bariatric surgery and relate them to cardiac geometry.

Methods Thirty-eight patients underwent cardiac magnetic resonance (CMR) imaging before and after bariatric surgery, including 20 who underwent short-term (median 209 days), 28 medium-term (median 428 days) and 11 long-term (median 1030 days) imaging follow up. Cardiac volumes (left atrial (LA), LV end-diastolic volume (LVEDV) and stroke volume (LVSV)) were assessed using cardiac MRI. VAT was assessed at L5 using a T1 weighted, water suppressed sequence. EAT volumes were calculated by manual contouring in end-ventricular systole on short axis slices from the mitral valve to the apex.

Results Following bariatric surgery all weight loss occurred within 428 days (mean -32kg, 54% excess weight loss, p<0.0001), with no significant change in weight thereafter. LA and LV cavity size is a response to reduced volume from body mass reduction. In contrast, we propose that the increase in LA and LVEDV that follows results from the longer term effects of reducing VAT, and increased space within the pericardium resulting from EAT loss allowing expansion to occur.

Conclusions Cardiac volumes show a biphasic response to weight loss, initially becoming smaller and then returning to baseline by 1030 days. We hypothesise that the early drop in LA and LV cavity size is a response to reduced volume from body mass reduction. In contrast, we propose that the increase in LA and LVEDV that follows results from the longer term effects of reducing VAT, and increased space within the pericardium resulting from EAT loss allowing expansion to occur.

Conflict of Interest None

14 IMPACT OF EPILEPSY OR SEIZURES ON OUTCOMES FOLLOWING TAKOTSUBO CARDIOMYOPATHY

Introduction Takotsubo cardiomyopathy (TC) is often preceded by emotional or physical stress. Literature is conflicted on the

Figure 1B, LA volume increased relative to day 209 (by 11%, p<0.0001). Between 428 and 1030 days LA volume remained the same size, and was similar to preoperative size (p = 0.86). In contrast between 428 and 1030 days LVEDV enlarged (by 11%, p = 0.03), and was similar to preoperative size (p = 0.92). LVSV followed a similar pattern being reduced at 209 days (by 10%, p = 0.002), then increasing after 428 days to become similar to pre-weight loss at 1030 days (p = 0.68).

Conclusions Cardiac volumes show a biphasic response to weight loss, initially becoming smaller and then returning to baseline by 1030 days. We hypothesise that the early drop in LA and LV cavity size is a response to reduced volume from body mass reduction. In contrast, we propose that the increase in LA and LVEDV that follows results from the longer term effects of reducing VAT, and increased space within the pericardium resulting from EAT loss allowing expansion to occur.

Conflict of Interest None
Abstract 14 Figure 1 Graphical representation of the proportion of patients with significant LVOTO by genotyping result. The numbers overlaid on the graph are the patient numbers in each group.

Effect of epilepsy or seizures on TC. We sought to test the association of epilepsy on readmission outcomes in patients with TC.

Methods Patients with TC during 2010–2015 were identified using International Classification of Diseases-9th Revision-Clinical Modification (ICD-9-CM) from the Nationwide Readmissions Database (NRD). Patient demographics, presence of comorbidities, time from discharge to readmission and the reason of readmission were also abstracted from the database. Patients with TC were divided into those with a prior history of epilepsy or seizures vs those without.

Results From 2010 to 2015, 32,817 TC patients were included in the analysis out of which epilepsy or seizure were present in 1,698 (5.17%) patients. At baseline first admission, patients with epilepsy or seizure, vs. those without, were younger [61.0 (53.0–71.0) vs 68.0 (59.0–78.0), p<0.0001], less likely to be females [82.6% vs 87.5%, p<0.0001], had greater length of stay (LOS) [5.0 (3.0–11.0) vs 3.0 (2.0–7.0), p<0.0001], greater adjusted healthcare associated costs (HAC) [median [IQR]: US$15,959.6 (9,401.8–73,885.0) vs 11,367.5 (7,432.6–40,290.0), p<0.0001], greater length of stay (LOS) [5.0 (3.0–11.0) vs 3.0 (2.0–7.0), p<0.0001], greater adjusted HAC on index admission with TC.

Conclusions Presence of epilepsy or seizure was associated with a higher frequency of VF, cardiac arrest, increased length of stay and adjusted HAC on index admission with TC. Background history of epilepsy or seizure also increases all-cause readmissions at 90-days in patients with initial presentation of TC. However, there is no significant difference in length of stay, healthcare adjusted costs and mortality on readmission. Further assessment to determine the causes of readmissions may help to identify preventable factors during index admission.

Conflict of Interest None