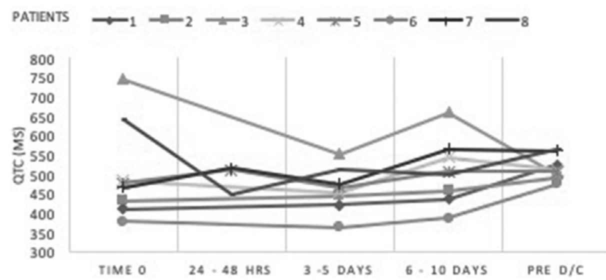


Abstract 25 Figure 2

undergoing targeted temperature management (TTM) to 32–34CÊ for 24 hours.

Of 106 individuals with OHCA, 58 (55%) were due to acute coronary syndrome (ACS), 20 (19%) were scar related, 15 (14%) were due to a primary arrhythmia, and 13 (12%) were non-cardiac or other. 79/106 (75%) had a prolonged QTc post cardiac arrest, defined as >460ms (males) or >470ms (females). Of these, 14 were excluded due to incomplete data, resulting in a final cohort of 65 patients. Among patients with a prolonged QTc on admission, there was no significant difference according to cause of OHCA.

From immediately post-arrest (T0) to discharge, the median QTc decreased from 495ms (20.9 SEM, range 376 - 745ms) to 421ms (11.7 SEM, range 360 - 561ms). This did not vary significantly by cause of arrest (figure 1). For the ACS group, mean QTc decreased from 505 11.8ms (range 376 – 745, male 503.5 12.9ms, female 516 34.4ms) to 447 15.0ms (range 278 – 561, male 408 15.7ms, female 462 37.8ms). The scar related group decreased from 507.5 21.3ms (range 423 – 745, all male) to 492 18.8ms (range 400 – 511). In those who sustained an OHCA due to primary arrhythmia the mean QTc was 501 9.7ms (range 456 – 536ms, male 503 10.2ms). The one female in this group saw an increase in QTc from 466ms on admission to 560ms at discharge and was subsequently diagnosed with congenital LQT2 syndrome.

Despite most patients demonstrating an improvement in QTc, a prolonged QTc was persistent in eight (12.3%) patients (figure 2).

Conclusion QTc interval is prolonged in a large proportion of patients following cardiac arrest, however this resolves in the majority pre-discharge. Despite concerns regarding the safety of TTM in a cohort who often have a prolonged QTc, we have shown resolution of the QTc in most despite nearly all patients receiving TTM.

In our cohort, only one patient was found to have congenital long QT syndrome.

Conflict of Interest None

26 PREVALENCE AND RISK FACTORS FOR ATRIAL FIBRILLATION IN BETA-THALASSAEMIA MAJOR: UK SPECIALIST CARDIO-HAEMATOLOGY CLINIC EXPERIENCE AND DEVELOPMENT OF A PREDICTIVE AF RISK SCORING SYSTEM (CH4ADI)

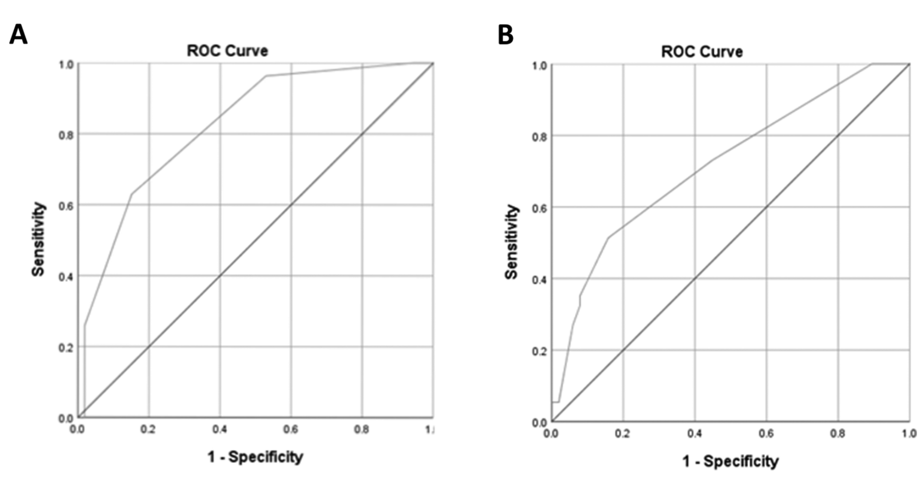
[1]Robert Bell*, [1]Tsz Chau, [1]Munashe Veremu, [1]Amna Abdel-Gabir, [2]Ratna Chatterjee, [1]John Porter, [1]Malcolm Walker. [1]*University College London*; [2]*University College London Hospital*

10.1136/heartjnl-2019-BCS.25

Introduction The prognosis of Beta-thalassemia major (TM) has been transformed in recent decades, revealing new management challenges including atrial fibrillation (AF). While recognised as a common finding, neither the prevalence nor risk factors for developing AF in this patient cohort are well characterised.

Methods We undertook a retrospective cross-sectional analysis of TM patients under review in our specialist-lead, cardio-haematology clinic at UCLH. Two cohorts were established: 80-patient derivation and a 189-patient validation group. Multivariate analysis was performed, deriving odds ratios (OR) to identify potential risk factors to derive a risk score that was then tested using the Receiver Operator Characteristic (ROC), and verified within the validation cohort.

Results Within the 80 patient derivation cohort, aged 20–57 years (mean 38.3, median 38), 27 (33.8%) had AF,



Abstract 26 Figure 1

Abstract 26 Table 1

CH_4ADI score	Risk category	AF prevalence in Derivation cohort	AF prevalence in Validation cohort
0	Low risk	0%	0%
1-2	Intermediate risk	19.2%	13.8%
3-4	High risk	58.8%	36.8%
5+	Very high risk	87.5%	50.0%

CH_4ADI score, arbitrary risk category and AF prevalence rates (%) in derivation and validation cohorts. A CH_4ADI score of 0 appears to exclude the possibility of AF. Those with very high scores have a very high probability (>50% chance) of having AF.

representing 75–240 fold greater prevalence by age group compared to the non-TM population. We identified five significant cardiovascular risk factors: Conduction disease (OR 6.11, 95% confidence interval (CI): 1.08–34.44, p=0.04), history of Heart failure (OR 17.85, CI: 2.06–154.50, p=0.009), Atrial enlargement (OR 3.68, CI: 1.36–9.92, p=0.01), Diabetes (OR 4.25, CI: 1.57–11.54, p=0.005) and myocardial Iron overload (T2*<15ms) (OR 4.01, CI: 1.43–11.21, p=0.008). Atrial area is a surrogate for left ventricular diastolic dysfunction: similar ORs were found in association with the Doppler indices, E/A and E/e'.

Interestingly, we found an age-dependent deterioration of diastolic function that was absent in non-AF patients, suggesting an interaction between AF and progressive diastolic dysfunction which may predict future morbidity in these patients.

Based on the risk-factor odds ratios, we were able to construct a risk score (CH4ADI) with a ROC AUC of 0.823 (CI: 0.730–0.917, p<0.001 figure 1A) that was corroborated in the 189 patient validation cohort with good reproducibility with a ROC AUC of 0.720 (CI 0.560–0.751, p<0.001 figure 1B).

Conclusion We demonstrate an extremely high prevalence of early-onset AF in TM patients, identifying five clearly definable risk factors and constructed a reproducible AF prediction score (table 1). Given the thromboembolic risk associated with AF, we believe that clinicians should consider active rhythm monitoring of patients who we may now be able to identify as at being at high risk of developing AF.

Conflict of Interest None

27 CIED ADVISORIES: IMPACT AND EFFECT ON PACING CLINIC AND PATIENT CARE

[1]sarah anderson, [1]Anne Marie Newsholme*, [2]Rick Veasey, [2]Nikhil Patel. [1]*East Sussex NHS Trust*; [2]*Cardiology Department, East Sussex Healthcare NHS trust*

10.1136/heartjnl-2019-BCS.26

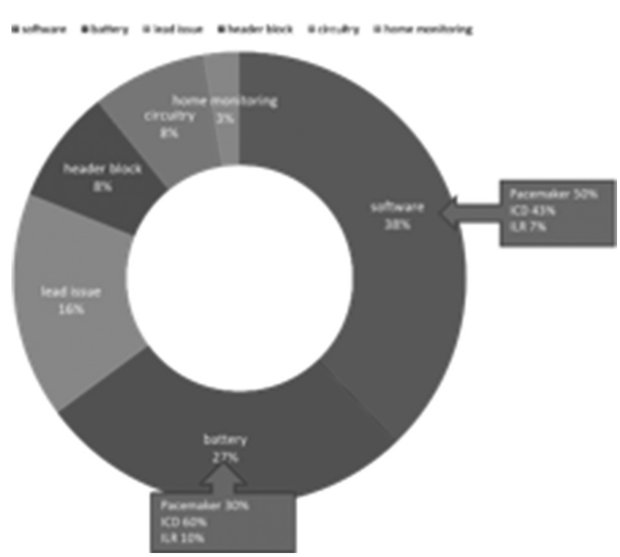
Introduction Implanting of cardiac implantable electrical devices (CIEDs) has become routine practice in the majority of acute hospitals. The numbers of patients receiving CIEDs are increasing rapidly due to a growing elderly population and adherence to NICE guidance. CIEDs have been subject to safety advisories potentially resulting in intensive patient follow up. Recent experience indicates that the number of advisories we deal with is increasing. We sought to quantify the additional burden this has placed on the cardiac device clinic and patients.

Methods A retrospective review was undertaken on all advisories & recalls issued by device company field safety notices and the MHRA website from 2008 to 2018.

We assessed 24 hardware and 13 software advisories

Then the number of patients affected by each at Eastbourne District General Hospital (EDGH) were recorded (n=1720), and the impact on the device clinic (additional hours) was calculated.

Results 5188 patients in total were seen in our device clinic over 10 years.



Abstract 27 Figure 1 This chart illustrates the breakdown of mechanical issues versus software issues for each of the major manufacturers. The left side of the donut graph shows the percentage of mechanical problems which include lead, device battery and circuitry. The predominant issue in more recent years are as a result of software. Half of software updates related to pacemakers including CRTP. Battery issues accounted for the largest proportion of mechanical malfunctions, 60% due to ICD battery technology.