$p=0.004$), even after removing participants with cardiovascular disease (IGF-I: β -0.03 ms/ng/ml; 95% CI -0.05, -0.004; $p=0.021$; leptin: β -82.41 ms/ng/ml; 95% CI -132.38, -31.92; $p=0.001$).

Conclusion Low levels of IGF-I and leptin (but not high leptin), representing insulin resistance, associate with prolonged QTc interval in older age. As QTc prolongation signals increased risk for sudden death even in apparently healthy people, public health efforts should be stepped up to combat the emergence of insulin resistance. Further research is needed to understand the potential mechanisms involved.

Conflict of Interest N/A

94 FIVE-YEAR REAL WORLD DATA ON TRANSVENOUS LEAD EXTRACTION (TLE) IN A SINGLE LOW VOLUME CENTRE

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Introduction TLE procedure in low volume centres is associated with lower success rate, higher overall complication and mortality rates. We explored the indication of leads extraction, safety and re-implantation rate of cardiac implantable electronic device (CIED) post extraction in our low volume centre [<30 TLE procedures/ year as defined by the ELECTRa study, The European Lead Extraction Controlled study: a European Heart Rhythm Association (EHRA) Registry of Transvenous Lead Extraction Outcomes].

Method Retrospective 5-year analysis of all extraction of leads between 1st January 2016 to 31st December 2020 was retrieved from our electronic database system.

Results All TLE procedures were undertaken in cardiac catheter laboratory with 71 (78%) male and 20 (22%) female patients with mean (sd) age of 66 (14) years were included in the study. More than half ($n=50$, 55%) of the cohort had severely impaired left ventricular systolic function, 45 (50%) patients were on oral anticoagulation therapy, 21 (23%) patients with diabetes mellitus, 12 (13%) with previous valvular heart surgery and 10 (11%) patients had chronic kidney disease. Out of 115 leads extracted, 32 (28%) were passive and 83 (72%) were active leads. Almost half ($n=54$, 47%) of the leads extracted were ICD leads with one third of dual-coil leads. Maximum of four leads were extracted from one patient during same procedure. The overall mean (sd) dwelling time of leads is 6(7) years with the oldest lead had been in place for 29 years. Class 1 indication for extraction was predominantly pocket infection (47%), followed by pocket erosion (24%), CIED endocarditis (17%) and lead failure (12%). Mechanical extraction with laser technique (37%) was the commonest method used followed by simple traction (24%), locking stylets (20%) and Evolution® mechanical dissecting sheaths (19%). Complete procedural success was achieved in 95% with one patient (aged 51) required emergency open chest extraction of active right atrial lead due to right atrial perforation and cardiac tamponade on table; the 14-year old lead was successfully retrieved without complication and he had an uneventful leadless pacemaker implantation.

The average length of hospitalization was 19 days for all patients. There was no directly attributed procedural mortality although a female patient (aged 50) with failed renal

transplant on haemodialysis died of infected chest haematoma a week after successful extraction of her two 9-year old dual-coil ICD leads. Minor complication was extremely low with one patient requiring intercostal chest drain insertion due to pneumothorax from implantation of externalised pacemaker system after TLE procedure and another patient had localised superior vena cava dissection which healed. Approximately a quarter (23%) of patients did not require CIED re-implantation, 11% of patients had re-implantation with leadless transcatheter pacemaker (Micra, Medtronic) and 6 (7%) patients had subcutaneous ICD (Emblem, Boston Scientific) implantation after TLE procedures. There was no evidence of re-infection within 12 months in all patients.

Conclusion Infection remains the commonest important indication for TLE procedures and this study demonstrates clinical importance supporting the safety profile of competent operators undertaking TLE. The excellent outcome could be attributed in part to a single cardiologist operator undertaking the extraction procedures and therefore able to maintain competency achieving a minimum of 15 TLE procedures annually during the study. CIED infection carries important mortality and morbidity risks with significant implications when proceeding to system extraction. Leadless pacemaker or subcutaneous ICD implantation is a safe option in some subgroup of patients. Limitations: Although this is a retrospective study, it is likely similar good outcome could be conserved if our procedure volume rises exponentially enhancing operator skills.

Conflict of Interest None

95 10-YEAR FOLLOW-UP OF ICD IMPLANTATION IN NON-ISCHAEMIC CARDIOMYOPATHY – AN INSIGHT FROM REAL WORLD PRACTICE IN A LARGE DISTRICT GENERAL HOSPITAL

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Introduction The benefits of implantable cardioverter-defibrillators (ICDs) in ischaemic cardiomyopathy are well established. The DANISH study, a large randomized controlled trial of prophylactic ICD implantation, found no benefit in preventing all-cause mortality in patients with non-ischaemic cardiomyopathy (NICM). However, ESC guidelines recommend ICDs for patients with NICM and LVEF $\leq 35\%$ who receive optimal medical therapy (IB recommendation). The 2014 NICE guidelines have similar endorsements but prior to that ICDs were not routinely recommended in NICM. We evaluated the long-term outcomes of patients who had ICDs implanted prior to 2014 in a NICM population at a large district general hospital.

Methods An ICD database of 454 patients at our district general hospital was retrospectively reviewed. We identified 70 patients who had ICD insertion for non-ischaemic cardiomyopathy between 2006 and 2014. Mean follow up time was 9 years 9 months (SD 23 months). 39 patients had an ICD inserted for primary prevention and 31 for secondary prevention. Data was collected from patients' electronic notes and analysed with relation to baseline demographics, mortality, complications and both appropriate and inappropriate therapy in those two subgroups.

Abstract 95 Table 1 Patient characteristics

	Non-Ischaemic Cardiomyopathy	Primary Prevention	Secondary Prevention	P value
Number of patients, n	70	39	31	
Sex (male), n (%)	52 (74)	29 (74)	23 (74)	0.987
Age at implantation, mean (range)	63 (27-81)	61 (27-81)	65 (40-81)	0.097
Mean follow up, months (SD)	117 (23)	117 (25)	117 (20)	0.985
5-year mortality, n (%)	11 (16)	6 (15)	5 (16)	0.932
Type of device, ICD n (%), CRT-D n (%)	44 (63), 26 (37)	19 (39), 20 (51)	25 (81), 6 (19)	0.006
Average LVEF, %	29	28	30	0.440
Generator changed, including upgrades, n (%)	46 (66)	26 (67)	20 (65)	0.851

Abstract 95 Table 2 ICD therapy and complications

	Non-Ischaemic Cardiomyopathy	Primary prevention	Secondary Prevention	P value
Appropriate ATP or shock, n (%)	29 (41)	18 (46)	11 (35)	0.386
Median time to 1st appropriate therapy, months (IQR)	30 (12-66)	27 (12-60)	30 (12-62)	0.629
Appropriate shock, n (%)	19 (27)	11 (28)	8 (26)	0.823
Median time to 1st appropriate shock, months (IQR)	49 (23-90)	38 (22-70)	68 (40-103)	0.327
Shock for VF, n (%)	11 (16%)	6 (15%)	5 (16%)	0.919
Inappropriate shock, n (%)	6 (9)	4 (10)	2 (6)	0.572
Complication, n (%)	9 (13)	6 (15)	3 (10)	0.479

Results The baseline patient characteristics are presented in table 1 and show similar characteristics between the primary and secondary prevention groups, except for a higher level of CRT-D implantation in the primary prevention group ($p=0.006$). Table 2 shows therapy that the device delivered and complication rates.

Overall, 16% of patients with an ICD for non-ischaemic cardiomyopathy received a shock for VF. 41% of patients received appropriate therapy (Shocks or Anti-Tachycardia Pacing) from their ICD with median time to first therapy of 30 months (IQR 12-66). Shocks for VF were similar in each group (15% vs. 16%, $p=0.919$). Six patients (8.6%) had inappropriate shocks and two inappropriate ATP (2.9%). 9 (13%) of patients had a complication either at implant or during follow-up; two had pericardial effusions following implant of which one required pericardiocentesis, three required lead replacement due to lead failure, two developed device infections, one was anticoagulated for a lead thrombus and one patient's device failed to treat VF.

Conclusion 16% of non-ischaemic cardiomyopathy patients received a shock for VF and 41% received ICD therapy for VT or VF over a mean follow-up of almost 10 years. This was seen in both primary and secondary prevention. Inappropriate shocks and life-threatening complications were uncommon.

Conflict of Interest Nil

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RAPID ROLLOUT OF A PACEMAKER HOME MONITORING SERVICE IN SOMERSET DURING THE 2020 COVID-19 PANDEMIC

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Introduction In an effort to reduce non-essential face to face contact during the COVID pandemic our pacemaker service was restructured in March 2020 to home monitoring only. Home monitors were issued at implant and wound reviews were done remotely via photo messages at one month or if prompted by the patient. Existing patients were given monitors on an ad hoc basis. A dedicated physiologist worked off site on home monitoring clinics. We assess the impact on our service and on patient experience of these changes one year after implementation.

Methods Baseline characteristics of age at implant and distance of home address from hospital were collected from all patients undergoing pacemaker home monitoring. Patients were surveyed using an adapted version of the Generic Short Patient Experiences Questionnaire (GS-PEQ). Comparison was made with our standard face-to-face follow-up model (1, 3, and 12 months).

Results Data was collected for 326 patients. 233 received a new permanent pacemaker from March 2020 onwards and 93 existing patients were issued with a home monitor. Average age at pacemaker implant was 80.6 year (± 9.9 years). The average one-way distance from home to outpatient clinic saved was 15.1 miles (± 10.4). 567 face-to-face appointments were saved. In an average day the off-site physiologist reviewed over 100 patient records, contacted 10 patients by phone and dictated reports on 20 patients (14 clinic patients and 6 home monitor alerts). Of patients surveyed 88% agreed with the statement 'I feel safe being cared for solely with a remote monitoring service', 84% agreed with the statement 'I receive the same standard of care via remote monitoring and face-to-face appointments'. Time saved by avoiding a face to face appointment was more than 1 hour for 90% of respondents. Those surveyed requested communication of reassuring monitoring, the ability to contact the pacing team in the event of concerns and clearer instructions for the home monitoring device.

Only 34% of newly implanted patients were able to send a photo message of their wound at one month without prompting or assistance. We did not get a post procedure photo in 38% and the rest either spoke to us about the wound or had a face-to-face visit. There was a significant difference in mean age between those who sent a photo (73.72) and those who didn't (81.38) ($P = 0.000607$).

Conclusion Rapid role out of a remote monitoring service for permanent pacemakers across Somerset was feasible, produced significant savings in clinics and was well received by patients. There were significant time savings for physiologists and patients. However remote wound monitoring in elderly patients was problematic due to the difficulty sending photo messages.

Conflict of Interest Honaria from Biotronik, Fellowship support from Abbott