further evidence against an ischaemic aetiology. Treatment options for this syndrome include negatively chronotropic medications and patient education to avoid the heart rate exceeding the threshold at which LBBB develops. However, this was not feasible in our case due to a resting bradycardia and the condition occurring at rest. Theoretically, using HBP to correct LBBB appears counterintuitive, as it is pacing proximal to the point of abnormal conduction. Despite this, it has a proven success rate in the treatment of LBBB [8] and does appear to be a management option that can offer a striking resolution of symptoms in select patients with this unusual and still poorly understood condition.

Conflict of Interest None

104 REWORKING THE POST-COVID WAITING LIST – THE PATIENT EXPERIENCE OF IMPLANTABLE LOOP RECORDER EXPLANTATION

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Introduction The Covid-19 pandemic has put a considerable strain on procedural waiting lists, with the majority of elective outpatient work cancelled during the pandemic. With the vaccination programme and reducing infection levels, attention is turning to addressing these waiting lists. One procedure that was affected was the removal of implantable loop recorders (ILRs). Manufacturers recommend that ILRs are removed at the point of battery depletion (usually 3-4 years), if they have not already been removed due to a positive finding or patient preference. There is little evidence in the literature regarding late complications with ILRs, and we therefore wished to examine what patients' thoughts would be about keeping the ILR in for a longer period of time.

Methods Patients awaiting ILR explantation and those who had undergone explantation, were identified. A retrospective review of the notes was used to get demographic and clinical data. Both groups of patients were contacted, and a questionnaire used to gain an understanding of patients' experience and expectations.

Results Prior to the Covid-19 pandemic, 60 patients who had undergone ILR explantation were identified. A total of 22 responded to our questionnaire (table 1). The majority (86%) were happy to have their ILR removed, although a smaller majority (59%) would also have been happy to have had the device kept in, were it felt to be safe. Very few patients felt a tangible difference as a result of having the ILR removed (14%) and no patients were worried about the waiting time prior to Covid-19. Of 77 patients currently awaiting explant, 30 responded to our questionnaire (table 1), with 70% not being concerned by the wait for removal. This is likely aided by the fact that 80% of patients had no day to day symptoms as a result of the ILR. Half of the patients however, would be concerned about not having the ILR removed, predominantly due to mild discomfort or concerns regarding the presence of a battery. Across both groups (n=52) only 8 patients were concerned about the risk of coming into the hospital for the procedure, with patients commenting that the stringent regulations that hospitals had employed combined with the vaccination programme, gave them significant confidence in attending for outpatient procedures.

Abstract 104 Table 1 Summary of characteristics for each group of patients

	Waiting list	Explanted
N	30	22
Male (%)	17 (57%)	10 (45%)
Age/years	56.3 ¬¬± 14.9	60.6 ± 16.3
Average duration of ILR / years	4.3 ± 1.53	2.1 ± 1.28
Average wait from time of listing / years	1.21 ± 0.40	-
Indication for ILR implant		
Arrhythmia (%)	4 (13%)	6 (27%)
Stroke (%)	10 (33%)	9 (41%)
Syncope (%)	16 (53%)	7 (32%)
Indication for ILR explant		
Battery deplete (%)	16 (53%)	3 (14%)
Arrhythmia detected (%)	4 (13%)	10 (45%)

Abstract 104 Table 2 Summary of questionnaire responses

Was the patient concerned about the waiting time?	9 (30%)	0(0%)
Did the ILR result in a day to day on the patient?	6 (20%)	-
Did the explant lead to a tangible change for the patient?	-	3 (14%)
Would the patient be happy to keep the ILR in?	15 (50%)	13 (59%)
If not happy, is this due to discomfort?	7	2
If not happy, is this due to concerns about the device/battery itself?	4	0
Was the patient concerned about attending hospital due to the pandemic/lockdown?	1 (3%)	7 (32%)

Conclusions This study found that if patients are reassured about the safety of keeping an implantable loop recorder in, and do not suffer any discomfort or symptoms as a result of the device, they are happy both to wait longer for device removal, or even not have it removed at all. In the context of the current pandemic, more thought should perhaps be given to patient guided removal times, especially in cases of removals performed for battery depletion.

Conflict of Interest Nil

105 EVALUATING LONG TERM PERFORMANCE OF MICRA VA LEADLESS PACEMAKER

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Background The Micra VA (leadless) pacemaker was approved by the FDA for use in 2016. Whilst initial studies evaluated the safety and efficacy of the device for a mean follow up of 12 months, very few studies have evaluated complications and device function beyond 1 year.Objective: To evaluate the short and long term complication rate and device function associated with the Micra VA (leadless) pacemaker at our centre.

Methods A prospective analysis of all Micra VA implants performed at Royal Papworth Hospital was carried out. This included pacing checks for up to 24 months post device insertion, evaluating complications and specifically noting thresholds and R-wave amplitude changes.
Results A total of 24 Micra leadless pacemakers were implanted at our centre between 2017 and 2020. The age range for the patients was 37 to 92 years, mean age 71 ± 13 yrs. 8 out of 24 (33%) patients had poor venous access, with bilateral subclavian obstruction, requiring the use of a leadless pacemaker. 2 out of 24 had bilateral previous pacemaker infections and extraction. For the remaining patients, 12/24 (50%) had atrial fibrillation with slow ventricular response as the primary indication for the device. 6 out of 24 (25%) patients had a history of LV impairment (4 patients severe LVSD, 2 moderate LVSD). One patient had a previous cardiac transplant.The implant was successful for all patients. One patient required the procedure to be repeated under general anaesthetic as she did not tolerate the insertion of the femoral sheath under sedation. 2 patients (8%) required repositioning of the device during the case, as initial placement was unsatisfactory. 23/24 patients had the device placed in the septum and 1 patient in the RV apex. This patient had undergone multiple previous tricuspid valve surgeries, which made septal positioning challenging, and so an apical placement was accepted. Mean procedure time was 62 ± 16 mins. Mean fluoroscopy time was 5.8 ± 4.2 mins. Implant threshold was 0.6 V ± 0.4 V. Threshold at 1 year follow up was 0.5 V ± 0.2 V and 0.6 V ± 0.2 V at 2 years. Paired T testing showed no statistically significant difference in threshold values at implant, and year 1 ($p = 0.7$, $n = 13$), or implant and year 2 ($p = 0.78$, $n = 6$). The R wave at implant was 9.5 ± 4.1mV, and 9.8 mV ± 2.5mV at year 1, again with no statistically significant difference ($p = 0.87$, $n = 13$). Mean battery life at 2 year follow up was 7 ± 0.5 years. Pacing percentages varied from 0.1% to 99.99%.
Conclusion Although are numbers are small, particularly for follow up over 2 years ($n = 6$), the initial results are encouraging, and support a low complication rate, and no evidence of premature battery failure or issues with device threshold requiring re intervention. It is imperative that further studies are carried out to give a picture of longer term follow up for the leadless Micra VA pacemaker focussing on these two key issues.
Conflict of Interest nil

106 IMPLANTABLE CARDIOVERTER-DEFIBRILLATORS IN THE ELDERLY: A SINGLE-CENTRE OBSERVATIONAL STUDY ON OUTCOMES IN OCTOGENARIANS

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Introduction Implantable cardioverter-defibrillators (ICDs) are well-established therapy for sudden cardiac death (SCD) prevention. However, the average age of patients in both primary and secondary prevention clinical trials of ICDs has been in the 60s, with less than 25% of included participants above the age of 75. As such, data supporting the clinical and cost-effectiveness of ICDs in this understudied age group is lacking. We aim to review the outcome of patients > 80 years of age with ICD therapy in a district general hospital serving an elderly population.
Methods Patients > 80 years of age who underwent ICD implantation between 2015 and 2017 were identified from the hospital electronic records. Conventional ICD and cardiac resynchronisation therapy with defibrillator (CRT-D) implants were included. Primary outcomes include overall all-cause mortality at time of data collection and at 1-year following implant. Secondary outcomes include number of patients receiving appropriate and inappropriate therapy and complication rates.
Results We identified 38 patients >80 years of age who underwent a defibrillator implantation in this period. 17 and 21 patients received an ICD and CRT-D respectively. 29 (76%) were male and the mean age at implant is 83.3 years. The mean follow-up period was 37.3 months (range: 6 – 51 months). The average number of co-morbidities per patient was 4. The most common comorbidities were heart failure with reduced ejection fraction (32/38), ischaemic heart disease (27/38), hypertension (22/38) and atrial fibrillation (21/38). 11 of 38 patients had chronic kidney disease. 25 patients (66%) underwent ICD implantation as primary prevention therapy. The overall mortality rate was 26.3% and the 1-year mortality rate was 2.6%. The average time to death from implant was 2.2 years. 6 patients (16%) received appropriate shocks during the follow-up period. No patients received inappropriate shocks. There were no acute or late complications from device implantation in the follow-up period.
Conclusion In this single-centre observational study, ICD implantation in octogenarians had a low complication rate. The majority of patients survived beyond 12 months, although the average time from implant to death was just over 2 years. ICD therapy may be beneficial in octogenarians and patients should be considered for ICD therapy after careful selection and counselling of risks and benefits. Further work is required to identify patients in this age group whom may benefit the most from ICD therapy.
Conflict of Interest None

107 A MIXED-REALITY HOLOGRAPHIC VIEWING PLATFORM ENABLING INTERACTION WITH 3D ELECTROANATOMICAL MAPS USING THE HOLOLENS

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Introduction Three dimensional (3D) electroanatomical maps (EAMs) created during electrophysiology procedures are traditionally displayed on 2D monitors connected to mapping systems. This has limitations, such as the lack of interaction with EAMs, the need for another user to control them, and the size of EAM displayed, which is limited by the resolution of these monitors. To overcome these, we created a novel technology to display EAMs on a mixed reality (MR) platform.
Methods We used the Microsoft® HoloLens to create this MR platform. Studies from patients who had already undergone catheter ablation for atrial fibrillation, where EAMs of