Abstract 150 Table 1

	SGH ICC patients (n=101)	Long QT Syndrome patients (n=51)	HCM patients (n=506)	ARVC patients (n=106)	Brugada Syndrome patients (n=220)
Follow-up (months; mean±SD)	74±53	87	44±33	58±35	38±27
Appropriate therapy (%)	26	24	20	24	8
Inappropriate therapy (%)	18	29	27	19	20
Lead failure (%)	21	25	7	2	9
Complication rate excluding lead failure (%)	26	31	n/a	34	20

Results 101 patients (mean age 44.1±14.8 years; 59 male) were included (idiopathic VF 15%; DCM 17%; ARVC 22%; HCM 21%; long QT syndrome 17%; Brugada syndrome 6%; others 2%). During a mean follow-up of 74.0±53.2 months 2 patients died (1 inappropriate shocks; 1 stroke). Indications were secondary prevention in 71.3% of patients. ICD types were 56.4% single chamber; 39.6% dual chamber; 4.0% biventricular. Appropriate therapy successfully terminated VT/VF in 27 (26.7%) patients 34.7% of secondary and 6.9% of primary prevention patients received appropriate therapy. Inappropriate therapy occurred in 18 (17.8%) patients and lead failure (noise/wear/fracture) in 22 (20.8%) patients (Abstract 150 table 2). 12 out of 18 inappropriate shocks were due to lead failure, 5 sensing errors (1 T-wave oversensing; 4 AF), 1 generator fault. 10/22 leads that failed were Medtronic Sprint Fidelis and these were responsible for 8/12 patients receiving inappropriate shocks including one death due to lead fracture. Comparison with other studies indicates a high lead failure rate due to the long follow-up period, similar to the LQT Study which reports 25% lead failure over 87 months (Abstract 150 table 1). With lead failure excluded the complication rate is comparable to shorter follow-up studies. Inappropriate and appropriate therapy rates are similar among all studies.

Abstract 150 Table 2

Complication	Number of patients	% of patients
Lead failure	21	20.8
Inappropriate shock	18	17.8
Lead displacement	5	4.9
Infection	5	4.9
Pneumothorax/Haemothorax	5	4.9
Box/Wound/Other revision procedure	7	6.9
Thrombosis (venous/lead)	2	1.9
Haematoma	5	4.9
Chronic abdominal cavity post-explant	1	0.9

Conclusions There is a significant rate of ICD lead failure in patients with ICCs, which may be expected given the high frequency of Sprint Fidelis leads implanted during this period and the long follow-up. Our results compare favourably to other similar studies. The high rate of appropriate therapy highlights the clinical effectiveness of ICD intervention in secondary prevention. Lead complications may be lower with the use of new ICD technology in selected patients.

151 RISK OF RECURRENCE FOLLOWING EXTRACTION OF CARDIAC IMPLANTABLE ELECTRONIC DEVICES FOR INFECTION: WHEN SHOULD A NEW DEVICE BE RE-IMPLANTED?

doi:10.1136/heartjnl-2011-300198.151

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Background The recommended management of cardiac implantable electronic device (CIED) infection is complete system extraction. There are limited clinical data on the optimal time for device re-implantation. A small series reported good results with simultaneous contralateral implantation. We evaluated this approach in our institution for patients without signs of systemic sepsis. We present clinical outcomes and completeness of extraction.
Methods The clinical records of all patients undergoing lead extraction in our institution since January 2008 were reviewed.
Results 68 patients underwent CIED extraction for infection during this time period (see Abstract 151 table 1). In 34 cases, the device was removed with simple traction, 9 with locking stylet, 22 with locking stylet and laser sheath, 1 with locking stylet and mechanical sheath and 2 with femoral snare. There was complete hardware removal in 64 cases (94%). One patient with lead related endocarditis required a subsequent surgical procedure to remove a lead fragment and in 4 other patients who had erosion, pocket infection or threatened erosion, a small fragment of lead remained. 18/68 patients were re-implanted with a new device on the contralateral side on the same day as the extraction. 28/68 patients received a new device between 1 and 227 days later and 22/68 have not undergone reimplantation. An active fixation bipolar TPW (temporary pacing wire) was used in 6 patients for a mean 7.8±2.7 days. 3 patients had a further device related procedure during a mean follow-up of 445±304 days: 1 lead reposition, 1 pocket washout and 1 extraction. Of the 2 procedures carried out for recurrent infection, 1 was managed with a TPW for 7 days prior to reimplantation and 1 underwent reimplantation at 14 days without TPW. In addition, the patient requiring pocket washout had a fragment of lead remaining following their initial extraction.

Abstract 151 Table 1

Indication for device extraction	Number of patients, n=80 (%)
Erosion	31 (39)
Pocket infection	25 (31)
Lead infection	7 (9)
Threatened erosion	4 (5)
Pain	1 (1)

Conclusion We report low rates of recurrent infections following CIED extraction. None of the 18 individuals simultaneously re-implanted with a new device on the contralateral side needed any further procedures during the follow-up period. This approach may be appropriate, particularly in pacing dependant patients who would otherwise require a TPW with its associated risks. In those individuals who required a TPW, the risk of recurrent infection in our series was 17% despite our use of an active fixation pacing lead and externalised pulse generator which has a lower reported complication rate. Only one of the 4 patients with a residual lead fragment required re-intervention for recurrent infection. This provides some supportive evidence that in patients with high surgical risk and pocket abnormalities, if fragments of lead may remain, the patient may be treated conservatively and monitored for signs of recurrent CIED infection.

152 REAL-TIME CARDIAC MR ANATOMY AND DYSSYNCHRONY OVERLAY TO GUIDE LEFT VENTRICULAR LEAD PLACEMENT IN CRT

doi:10.1136/heartjnl-2011-300198.152

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Introduction Optimal left ventricular (LV) lead placement via the coronary sinus (CS) is a critical factor in defining response to cardiac resynchronisation therapy (CRT). Using novel semi-automated image acquisition, segmentation, overlay and registration software