

Supplemental Figure 1. MRI-Examinations stratified by years, “MRI-conditional”, “mixed-brands” and “MRIs with unknown CIEDs” groups.

Year	MRIs with MR-conditional CIEDs	MRIs with mixed-brands CIEDs	MRIs with unknown CIEDs	total
2013	10	5	0	15
2014	7	4	1	12
2015	8	6	0	14
2016	25	9	2	36
2017	26	14	9	49
2018	39	7	19	64
2019*	18	8	6	32
2020*	2	1	2	5
total	131	54	42	227

CIED: cardiac implantable electronic device, MRI: magnetic resonance imaging

*The years 2019 and 2020 were not fully examined by our study

Supplemental Table1. Baseline characteristics of excluded patients.

<i>Parameter</i>	<i>Excluded patients</i>
Demographics	
<i>Number of patients</i>	31
<i>Number of MRI procedures</i>	39
<i>Age</i>	71 (63-80)
<i>Female gender</i>	25.8%
<i>Height (cm)[†]</i>	169±14
<i>Weight (kg)[†]</i>	83 (81-98)
CIED details	
<i>CIED type[†]</i>	
<i>Pacemaker</i>	67.7%
<i>ICD</i>	12.9%
<i>Unknown</i>	19.4%
Indication[†]	
<i>Atrioventricular block</i>	16.7%
<i>Brady tachy syndrome</i>	16.7%
<i>Sick sinus syndrome</i>	0.0%
<i>Other block</i>	0.0%
<i>Heart failure</i>	33.3%
<i>Secondary prophylaxis</i>	16.7%
<i>Other Indications</i>	16.7%
Generator brand[†]	
<i>Biotronik</i>	31.6%
<i>Boston Scientific</i>	5.3%
<i>Medtronic</i>	42.1%
<i>Sorin/LivaNova</i>	0.0%
<i>St. Jude Medical/Abbott</i>	21.1%
<i>Months since prior box change before MRI</i>	19.9 (9.8-43.7)
<i>Prior box change < 1.5 months</i>	0.0%
MRI details	
<i>Location of MRI examination[†]</i>	
<i>Head or extremities</i>	48.7%
<i>Extrathoracic torso</i>	46.2%
<i>Thorax</i>	5.1%
<i>Pacing mode during MRI[†]</i>	
<i>OOO</i>	4.5%
<i>AOO/VOO</i>	18.2%
<i>DOO</i>	77.3%
<i>Estimated ERI before MRI (years)</i>	8.1 (5.8-11.0)

CIED: cardiac implantable electronic device, ICD: implantable cardioverter/defibrillator, MRI: magnetic resonance imaging, ERI: elective replacement indicator.

* p<0.05; † data not complete in all patients.

Supplemental Table 2. CIED details of all included patients, mixed-brand and MRI-conditional groups - divided into pacemakers and ICDs.

<i>Parameter</i>	<i>All included patients</i>	<i>mixed-brand group</i>	<i>MRI-conditional group</i>	<i>P value</i>
CIED details				
<i>CIED type[†]</i>				0.338
<i>Pacemaker</i>	92.1%	97.4%	89.9%	
<i>Transvenous ICD</i>	6.3%	2.6%	7.9%	
<i>Subcutaneous ICD</i>	1.6%	0%	2.2%	
Pacemaker details				
<i>Generator brand[†]</i>				<0.001*
<i>Biotronik</i>	29.9%	2.7%	42.5%	
<i>Boston Scientific</i>	10.3%	10.8%	10.0%	
<i>Medtronic</i>	26.5%	37.8%	21.3%	
<i>Sorin/LivaNova</i>	18.8%	43.2%	7.5%	
<i>St. Jude Medical/Abbott</i>	14.5%	5.4%	18.8%	
<i>Lead brand[†]</i>				0.002*
<i>Biotronik</i>	54.7%	81.1%	42.5%	
<i>Boston Scientific</i>	7.6%	2.7%	10.0%	
<i>Medtronic</i>	18.8%	13.5%	21.3%	
<i>Sorin/LivaNova</i>	5.1%	0.0%	7.5%	
<i>St. Jude Medical/Abbott</i>	13.7%	2.7%	18.8%	
ICD details				
<i>Generator brand[†]</i>				1.000
<i>Biotronik</i>	60.0%	100.0%	55.6%	
<i>Boston Scientific</i>	40.0%	0.0%	44.4%	
<i>Lead brand[†]</i>				0.100
<i>Biotronik</i>	50.0%	0.0%	55.6%	
<i>Boston Scientific</i>	40.0%	0.0%	44.4%	
<i>Medtronic</i>	10.0%	100.0%	0.0%	

CIED: cardiac implantable electronic device. ICD: implantable cardioverter/defibrillator. MRI: magnetic resonance imaging.

* p<0,05; † data not complete in all patients.

Supplemental Table 3. Changes in lead performance compared by groups at different follow-ups

Lead Parameters	Total		All-included patients		MRI-Conditional group		Mixed-Brands group		Excluded patients	
	mean change	standard deviation	mean change	standard deviation	mean change	standard deviation	mean change	standard deviation	mean change	standard deviation
Difference Pre-MRI/Post-MRI										
RA threshold (V)	-0.0	0.2	+0.0	0.2	-0.0	0.2	+0.1	0.2	-0.2	0.2
RA sensing (%)	+2.8%	23.5	+2.6%	24.9	+2.1%	21.8	+4.9%	36.4	+4.5%	6.1
RA impedance (Ω)	-9.4	56.9	-7.7	52.0	-6.6	52.5	-13.5	50.6	-24.9	93.7
RV threshold (V)	+0.0	0.2	+0.0	0.2	+0.0	0.3	-0.0	0.1	-0.0	0.1
RV sensing (%)	+7.2%	28.6	+7.2%	28.5	+7.2%	22.6	+7.2%	43.1	+7.2%	30.4
RV impedance (Ω)	+6.5	49.1	+7.4	51.4	+2.5	53.1	+26.3	40.1	-1.6	18.3
Difference Pre-MRI/1.Follow-up										
RA threshold (V)	+0.0	0.2	+0.0	0.3	+0.0	0.2	-0.0	0.4	+0.0	0.1
RA sensing (%)	+8.4%	60.9	+9.2%	65.5	+13.8%	71.6	-9.8%	20.9	+3.3%	13.7
RA impedance (Ω)	+4.0	77.2	+3.4	66.9	+3.0	68.6	+5.4	61.4	+7.6	130.9
RV threshold (V)	+0.0	0.3	+0.0	0.3	+0.0	0.3	+0.0	0.3	-0.0	0.1
RV sensing (%)	+7.0%	31.6	+6.9%	32.8	+8.0%	33.3	+3.5%	31.7	+7.8%	24.9
RV impedance (Ω)	+4.2	70.0	+3.8	74.9	-3.2	72.5	+28.2	80.2	+6.9	29.4
Difference Pre-MRI/2.Follow-up										
RA threshold (V)	+0.1	0.3	+0.1	0.3	+0.1	0.3	+0.1	0.3	+0.0	0.2
RA sensing (%)	-3.5%	27.4	-4.1%	27.5	-3.2%	27.6	-7.6%	28.2	+3.8%	27.7
RA impedance (Ω)	+0.4	64.9	-0.5	65.7	+0.0	62.7	-2.1	77.8	+13.8	57.4
RV threshold (V)	+0.0	0.2	+0.1	0.3	+0.0	0.3	+0.1	0.3	+0.0	0.1
RV sensing (%)	-2.0%	29.9	-1.8%	31.1	-0.3%	32.2	-6.1%	28.5	-3.8%	19.4
RV impedance (Ω)	+2.8	78.0	+3.2	80.9	-7.5	77.2	+32.9	85.9	-0.3	54.2

CIED: cardiac implantable electronic device, MRI: magnetic resonance imaging, RA: right atrial, RV: right ventricular