Supplemental Table. Artifacts on Cine CMR

	ICD / BiV-ICD N=56 Scans	PM N=15 Scans	P-Value
% of Scans with Any Artifact on Cine CMR			
Short Axis	100% (56 / 56)	93.3% (14 / 15)	0.211
Horizontal Long Axis	26.9% (14 / 52)	23.1% (3 / 13)	1.0
Vertical Long Axis	76.1% (35 / 46)	33.3% (4 / 12)	0.012
Artifacts Size on Cine CMR [cm ²]			
Short Axis	197.2±31.2	89.0±25.0	<0.0001
Horizontal Long Axis	105.3±61.2	35.6±9.1	0.001
Vertical Long Axis	189.2±57.0	66.1±30.3	0.0002

Values are shown as percentage (N) and mean \pm SD.

CMR=cardiac magnetic resonance; ICD=implantable cardioverter defibrillator;

BiV-ICD=biventricular ICD; PM=pacemaker.



Supplemental Figure 1. Estimated Whole-Body Averaged Specific Absorption Rate (SAR) for Each Image Sequence

The estimated whole-body averaged SAR was less than 2.0 W/Kg in most image acquisition sequences except SSFP cine cardiac magnetic resonance.

SSFP=steady state free precession; LGE=late gadolinium enhanced; T2W=T2-weighted; MR=magnetic resonance.



Supplemental Figure 2. Correlation of Artifact Size on Cine CMR and Generator Dimension.

The association of artifact size on cine CMR and generator dimensions including area [cm2], thickness [mm], weight [g] and volume [ml] were demonstrated with Spearman correlation analysis in SA, HLA and VLA planes, respectively. The strongest correlation was observed in SA planes.

Significant P-value defined as P<0.05 are shown by the asterisk (*).

SA = short axis; HLA = horizontal long axis; VLA = vertical long axis.

(A) Artifact Effects on Short Axis Plane

(B) Regional Artifact Effects on Short Axis Plane



Supplemental Figure 3. (A) Artifact effects in short axis plane of cine CMR due to the generator were quantitatively assessed in patients with left and right-sided ICD/BiV-ICD or PM systems. Artifacts on cine CMR were only observed in patients with left-sided ICD/BiV. (B) Details about the regional artifact effects on short axis plane were demonstrated in patients with left-sided ICD/BiV-ICD.A majority of the artifacts on cine CMR were observed in the anterior regions.