Electrical Storm in two Patients with Myocarditis

Role of CMR in Procedure Planning

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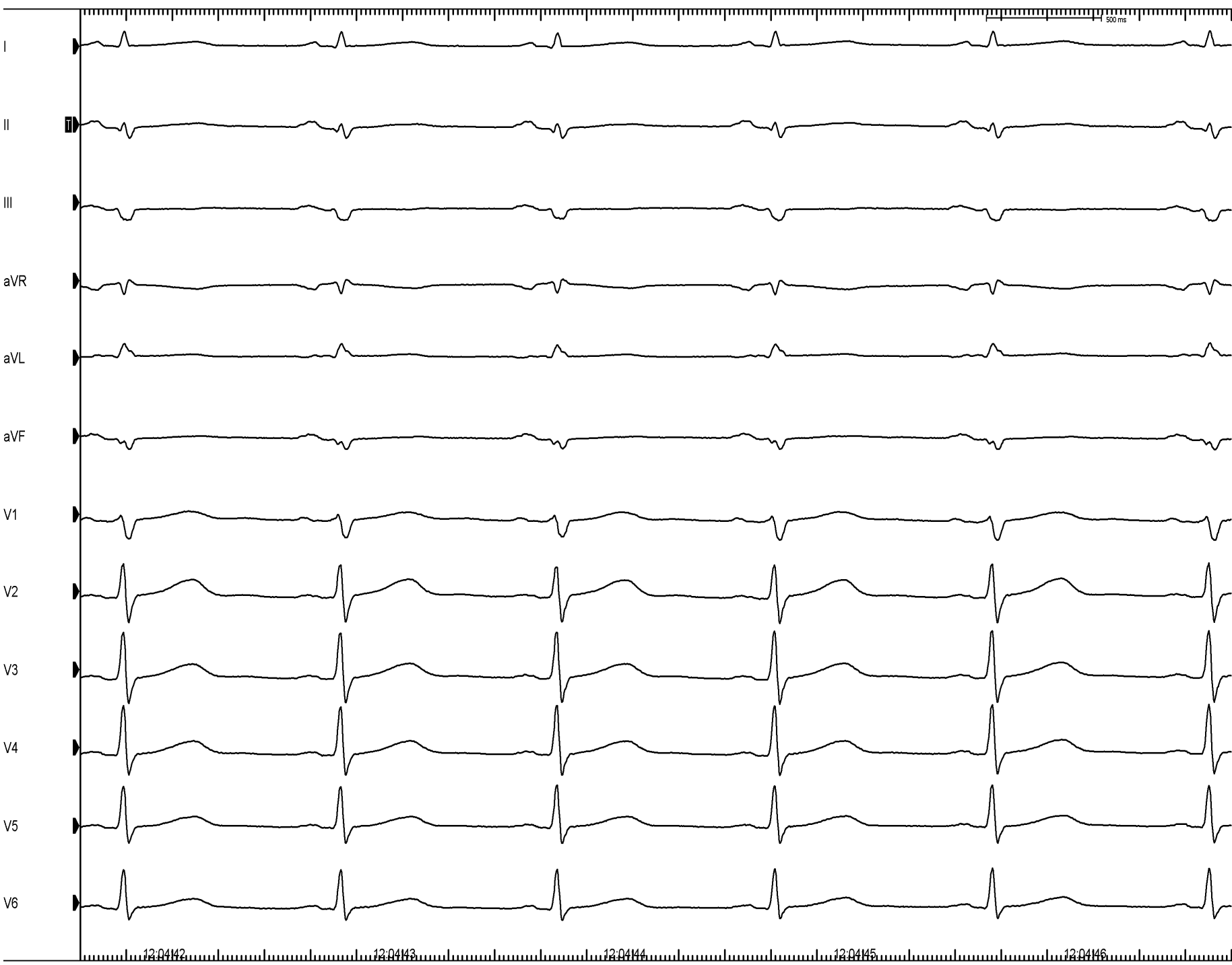
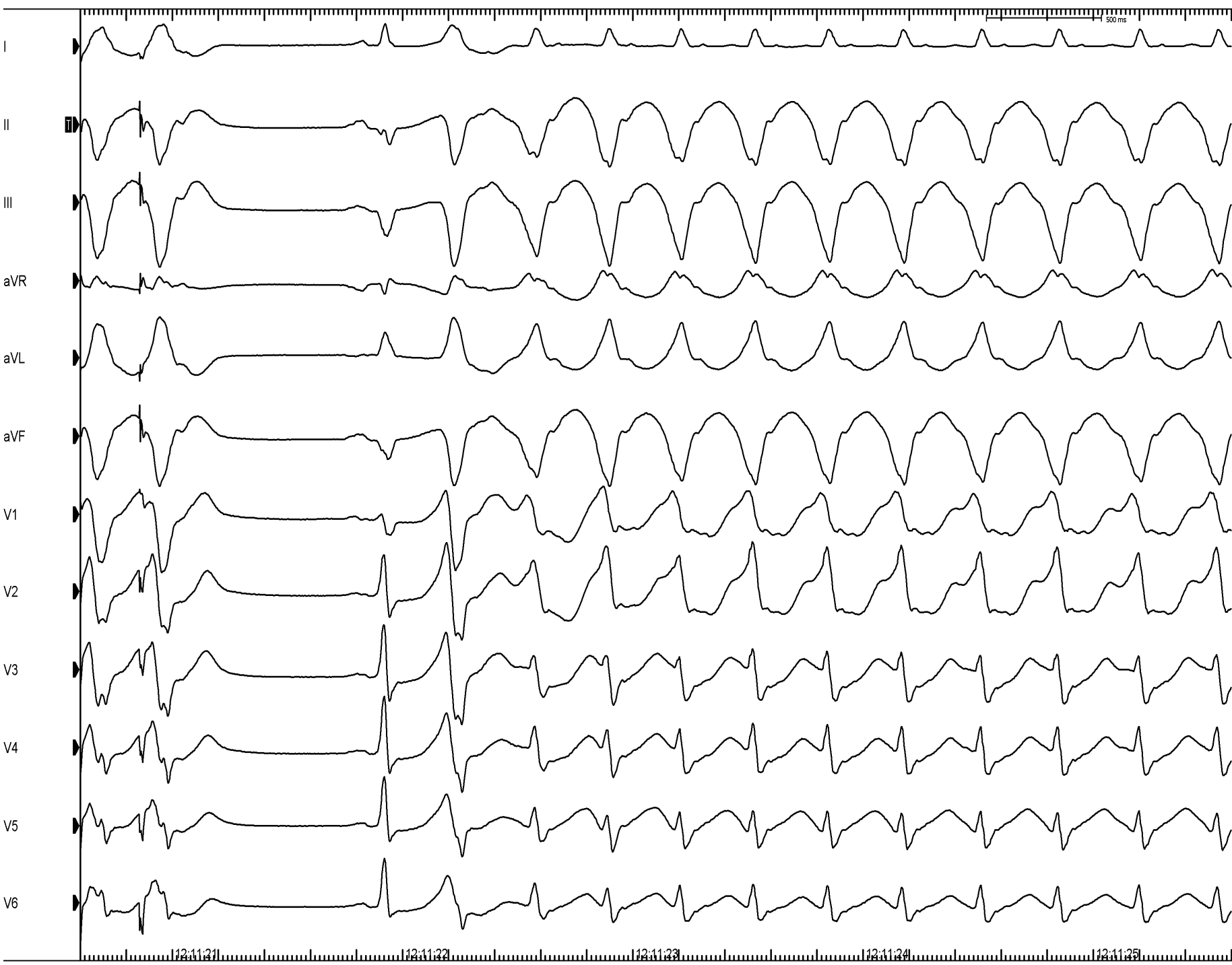
Introduction:

- 54-year-old male patient
- Non-ischemic CMP
- Electrical Storm due to monomorphic VT
- Admitted for RF Ablation

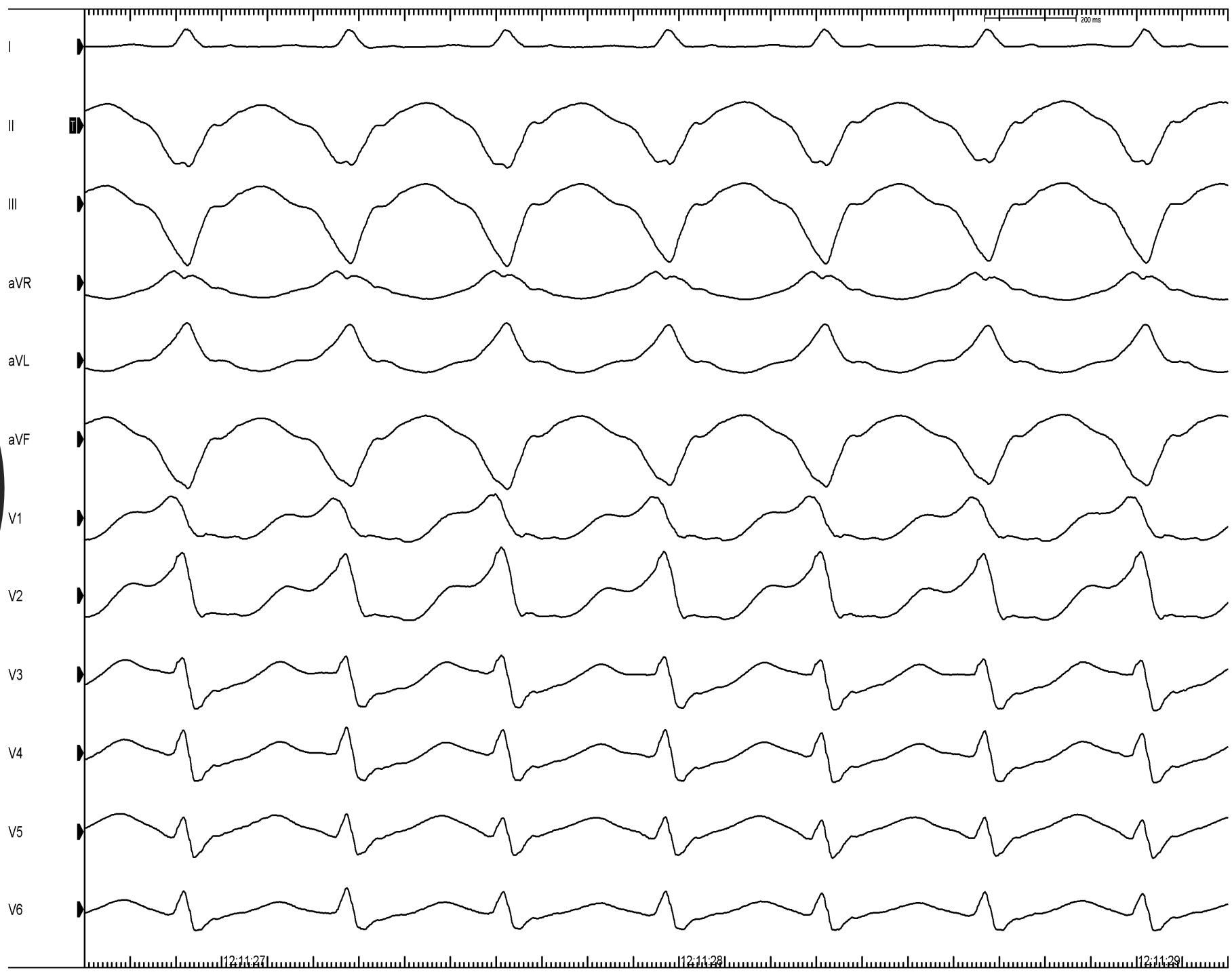
Baseline ECG



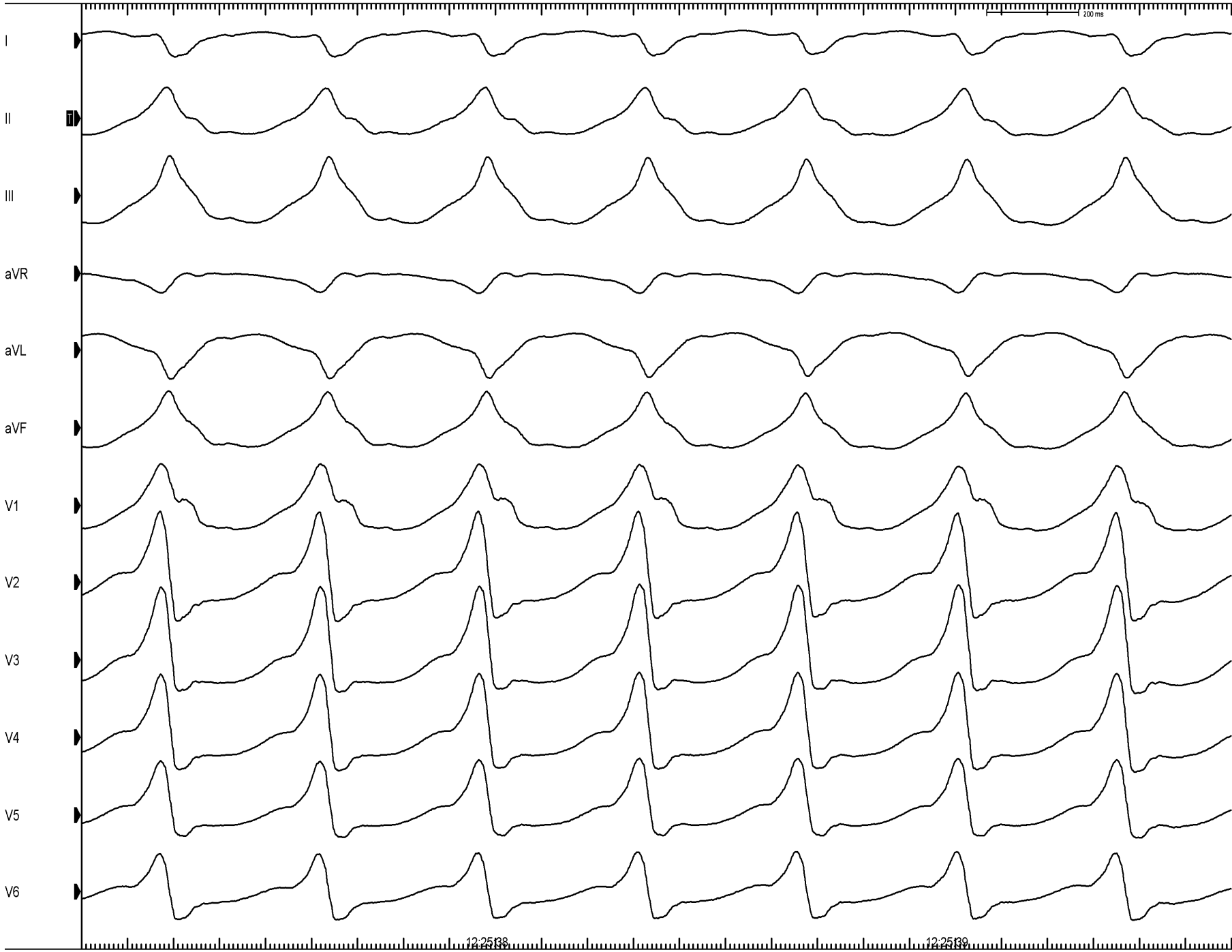
VT Induction

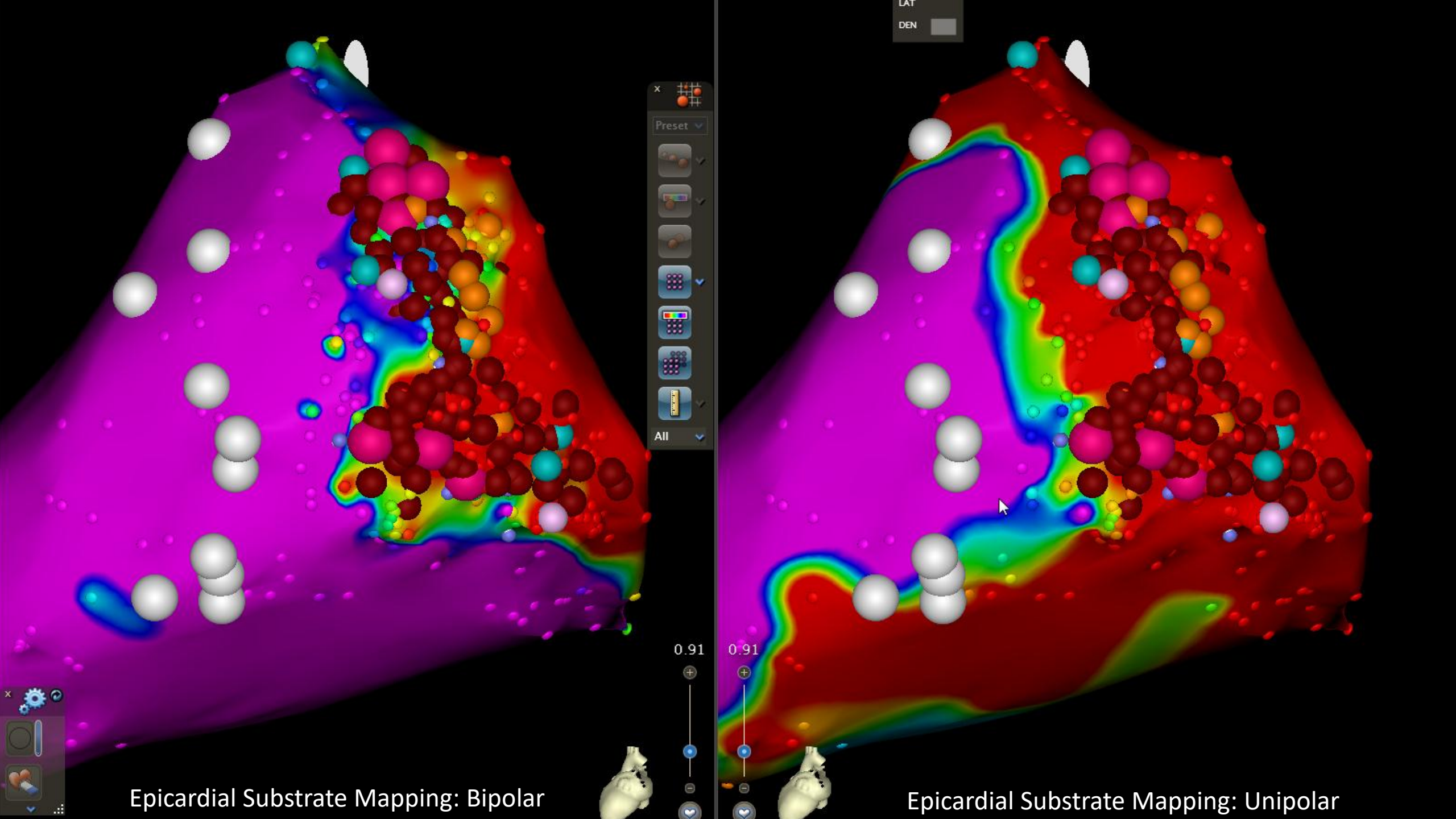


Clinical VT


200 ms
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
12:11:27
12:11:28
12:11:29

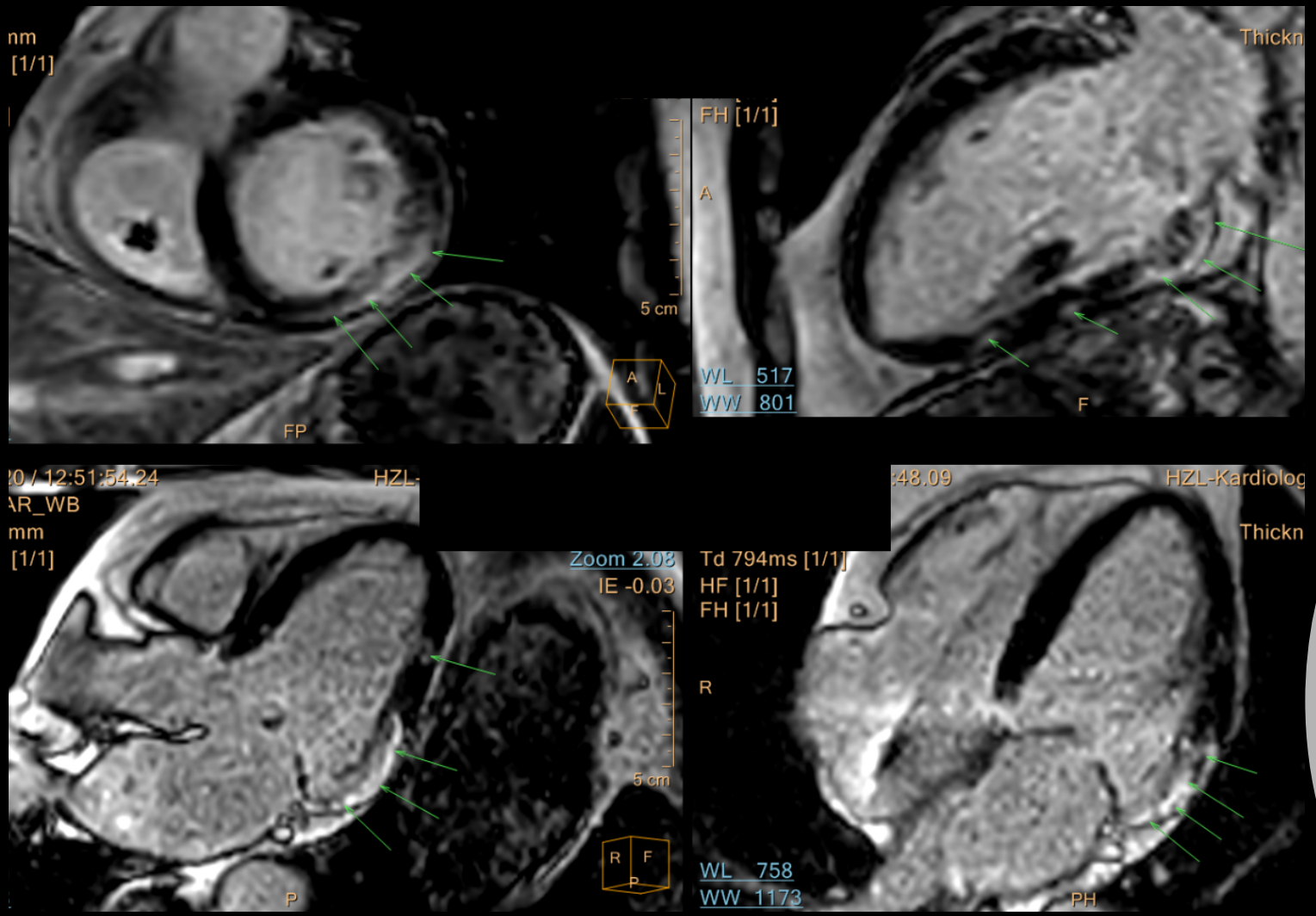
VT2



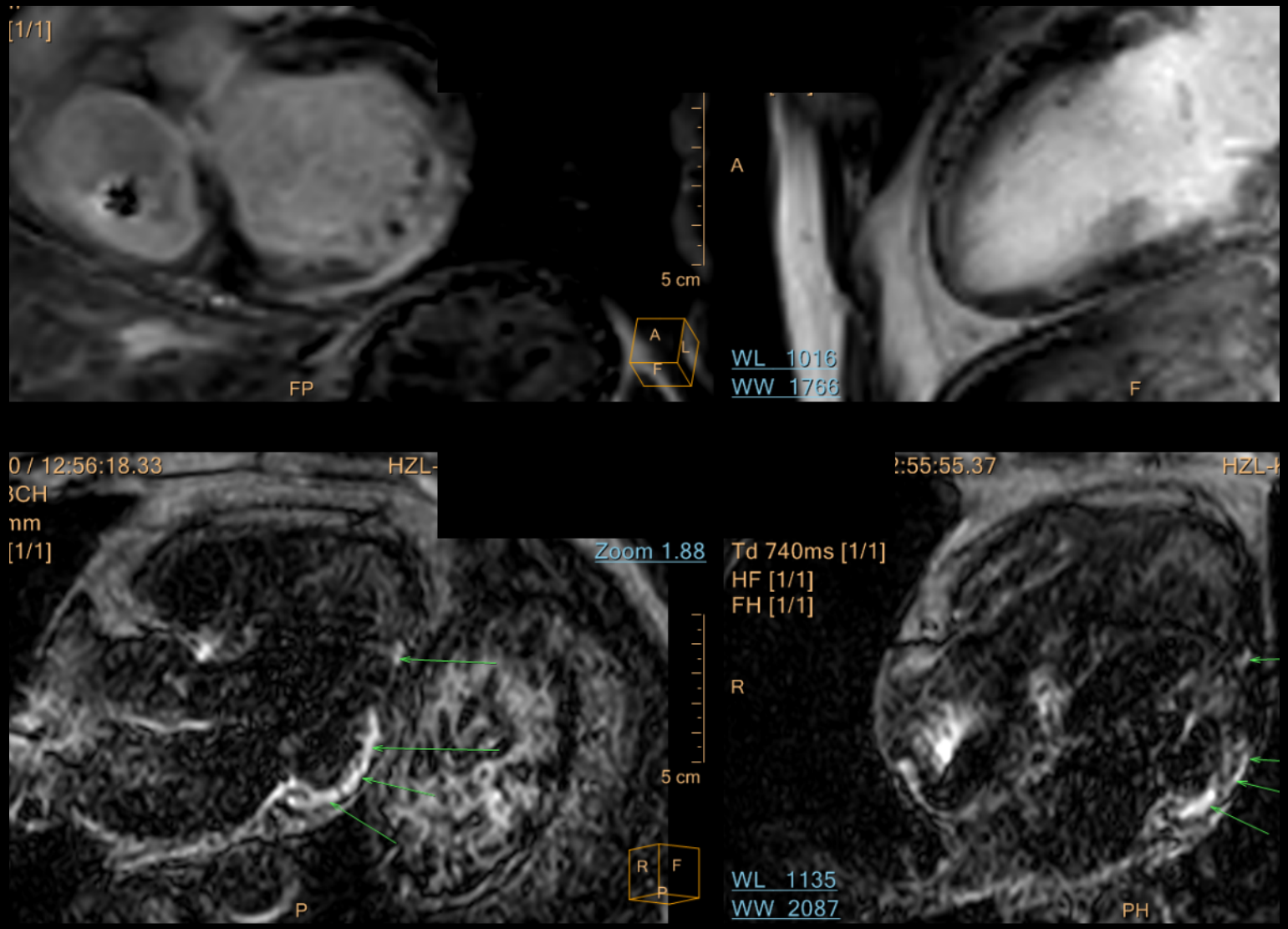


Epicardial Substrate Mapping: Bipolar

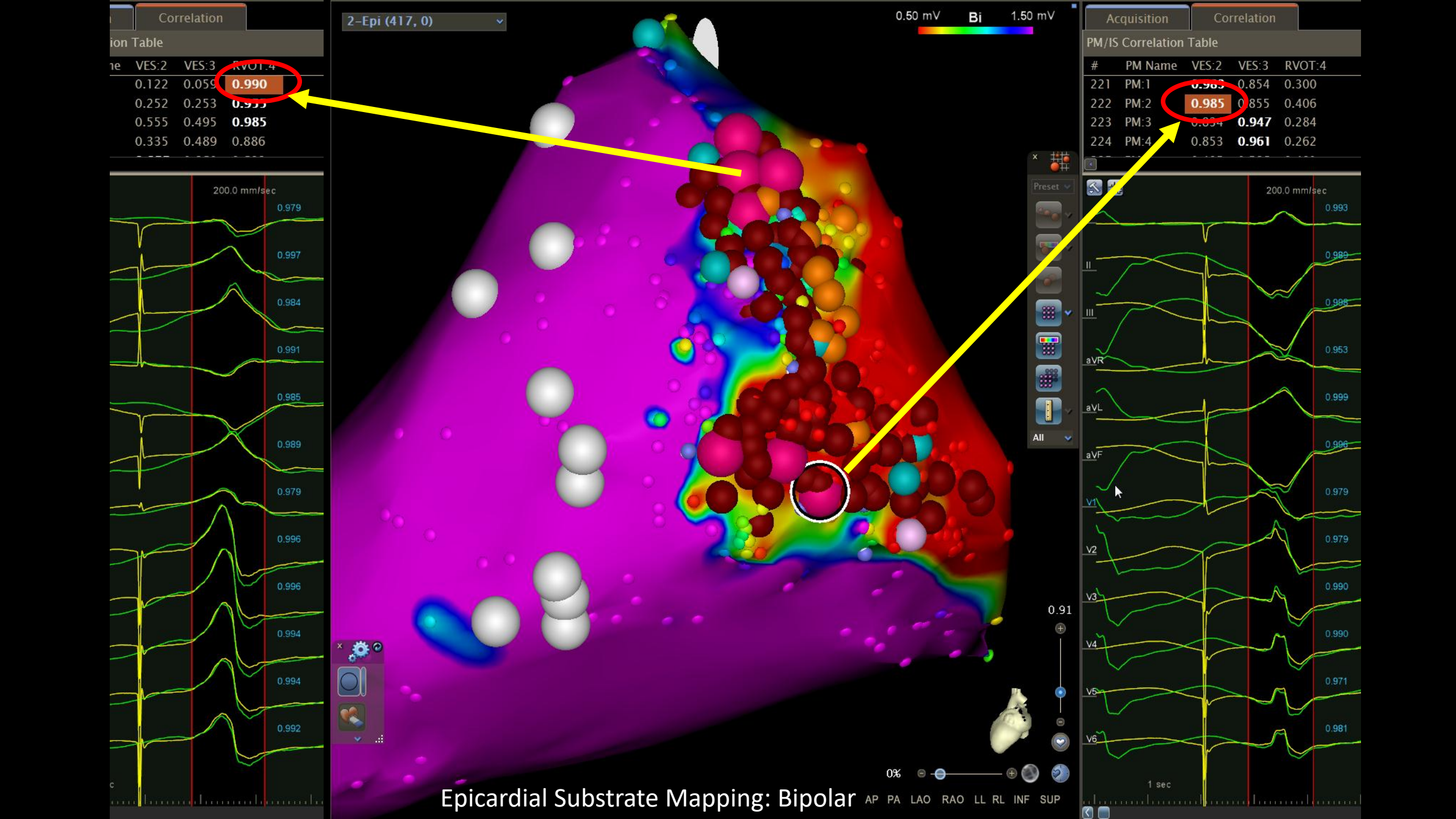
Epicardial Substrate Mapping: Unipolar



CMR: Scar more compatible with unipolar mapping

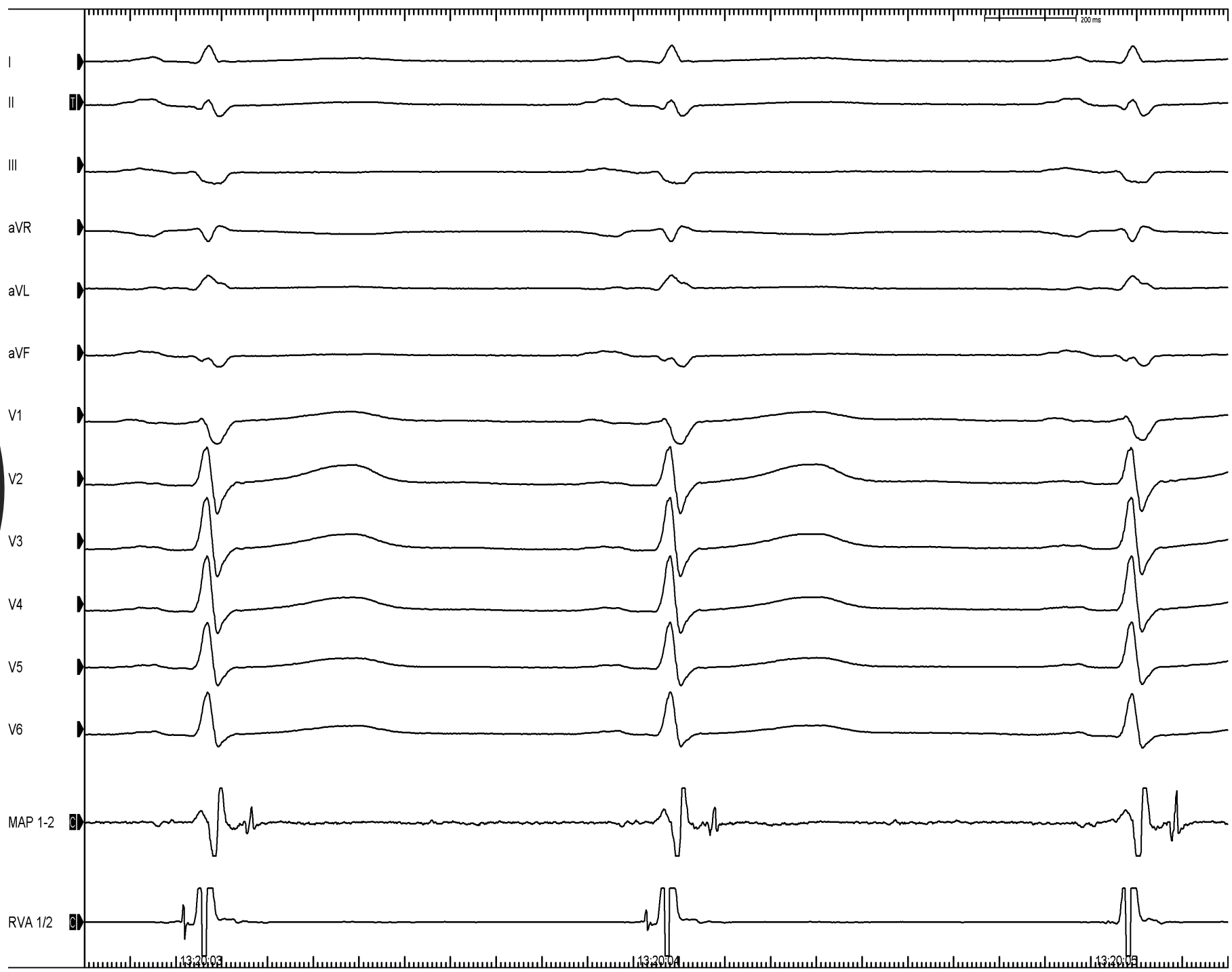


CMR: Scar more compatible with unipolar mapping

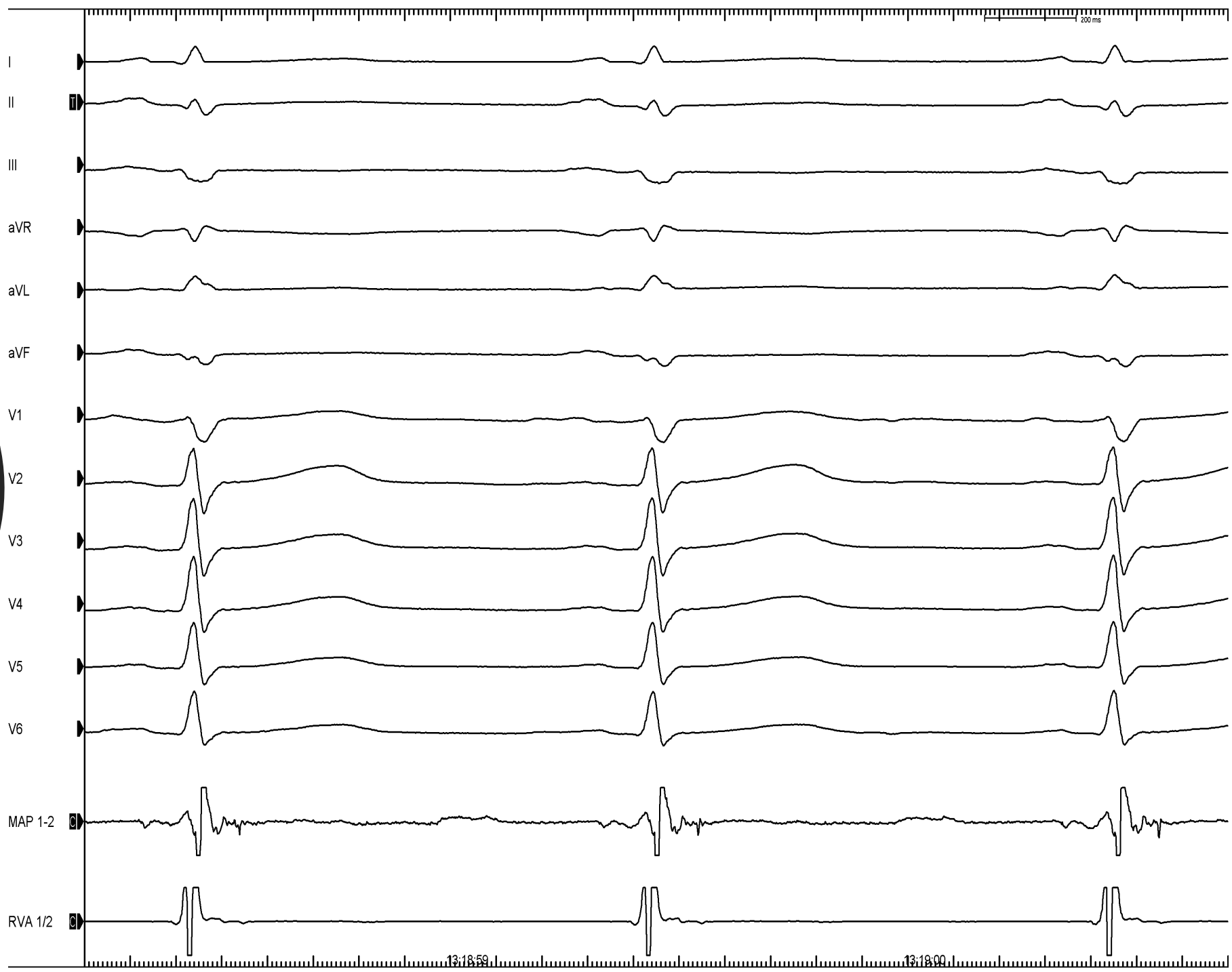


Epicardial Substrate Mapping: Bipolar

Late Potentials



Late Potentials



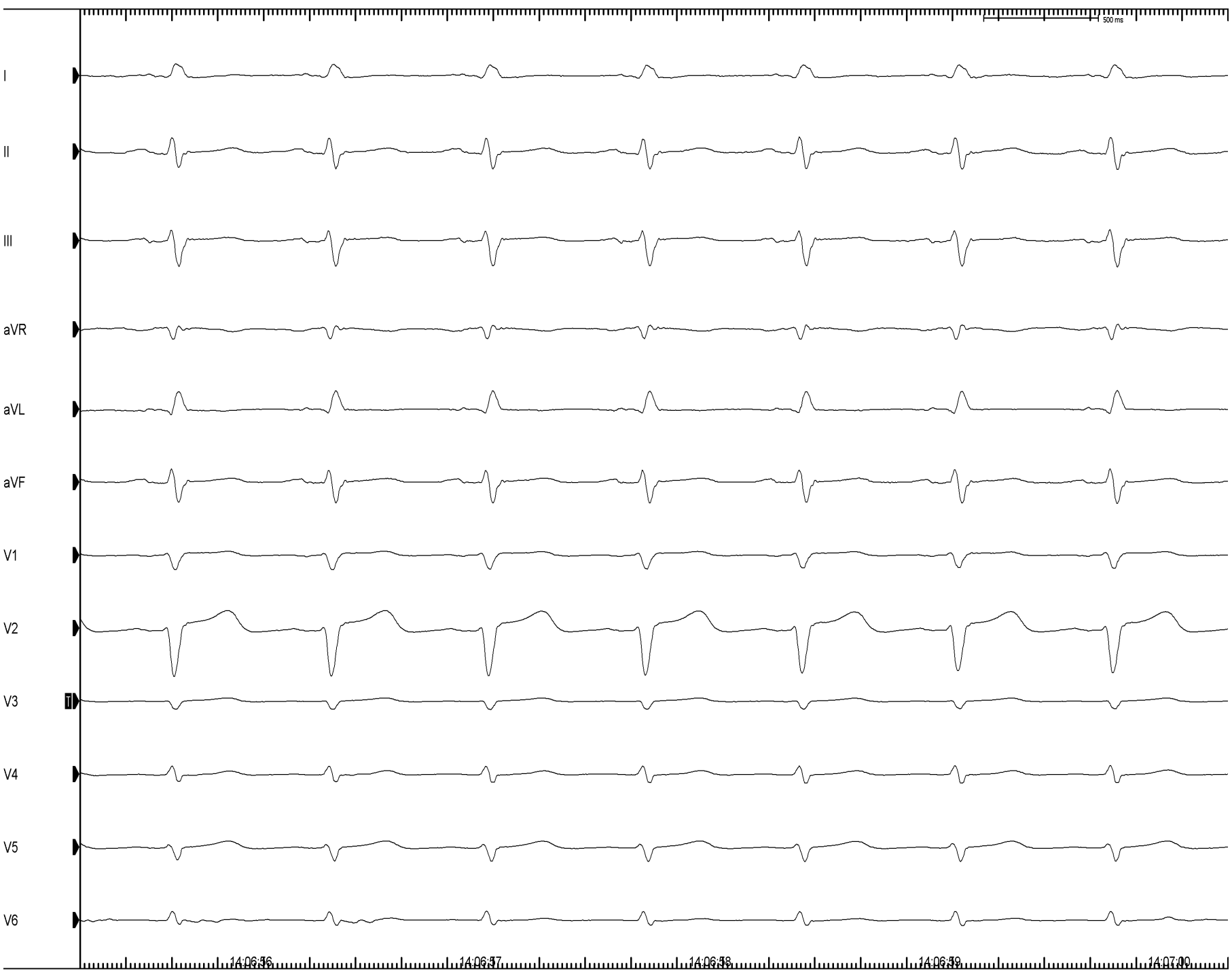
Conclusion:

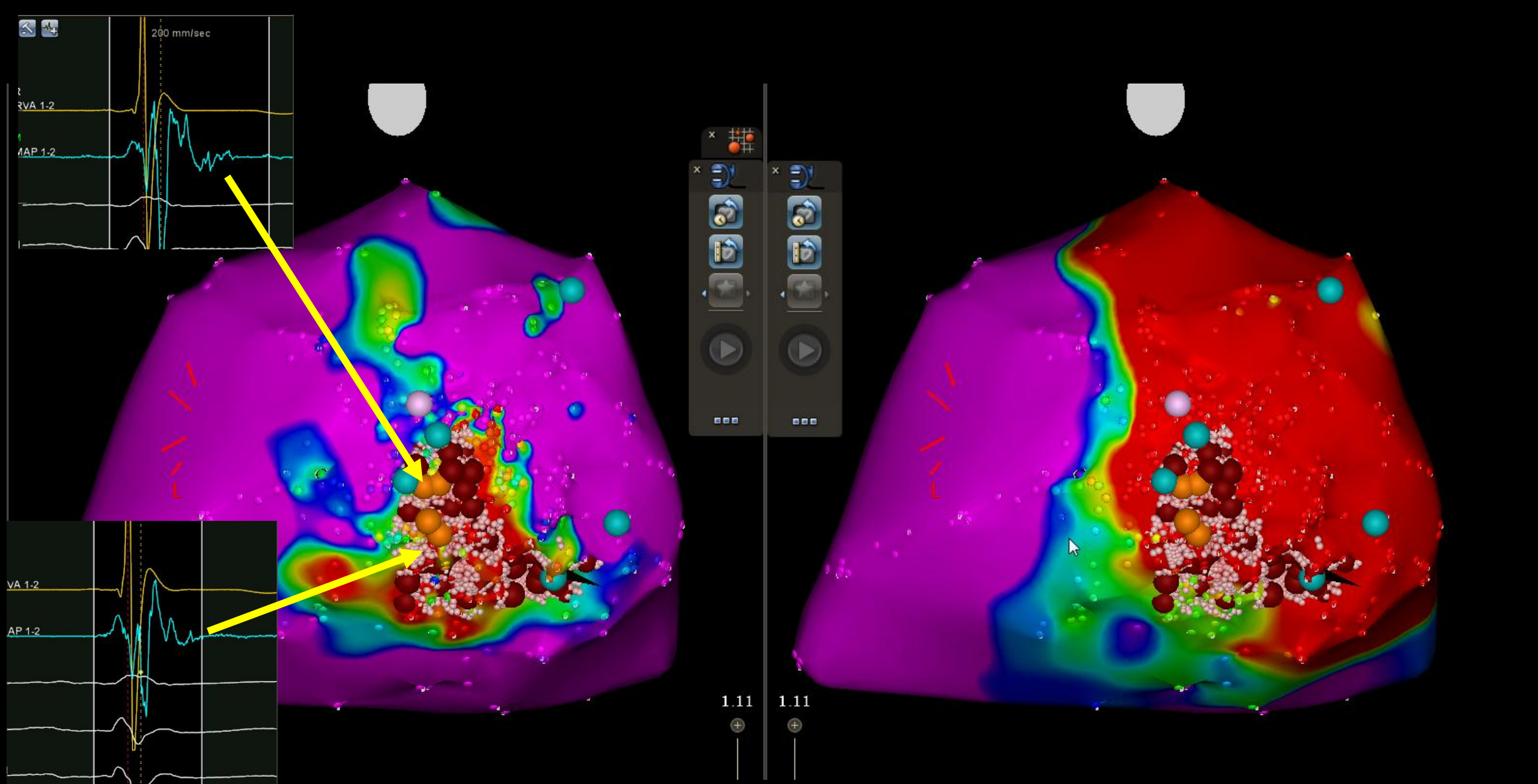
- Complete successful ablation
- Ablation of all late potentials
- Uneventful hospital stay
- No further VTs

Introduction:

- 63-year-old male patient
- Non-ischemic CMP
- Electrical Storm due to monomorphic VT
- Admitted for RF Ablation
- No VT inducible during EP Study

Baseline ECG



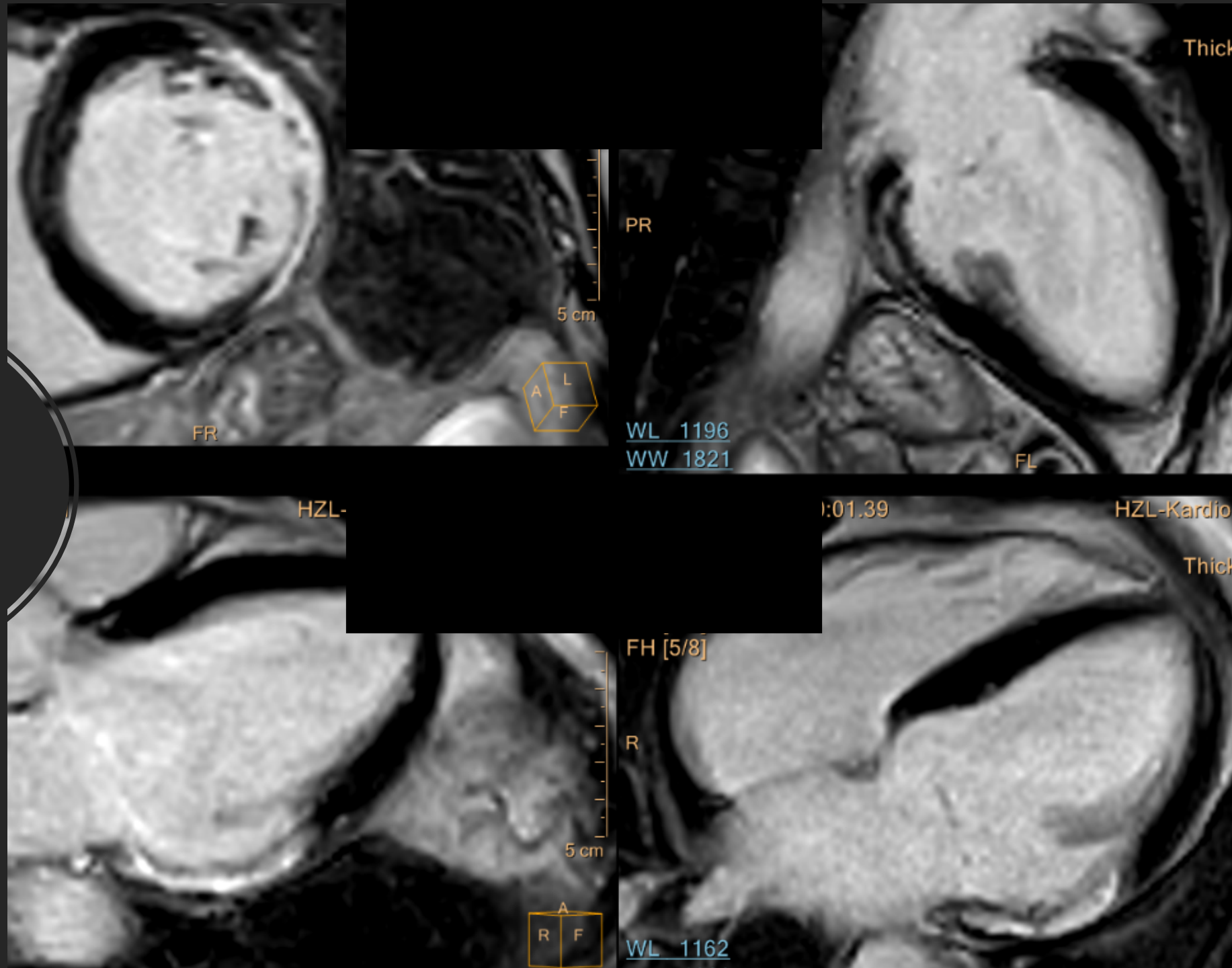


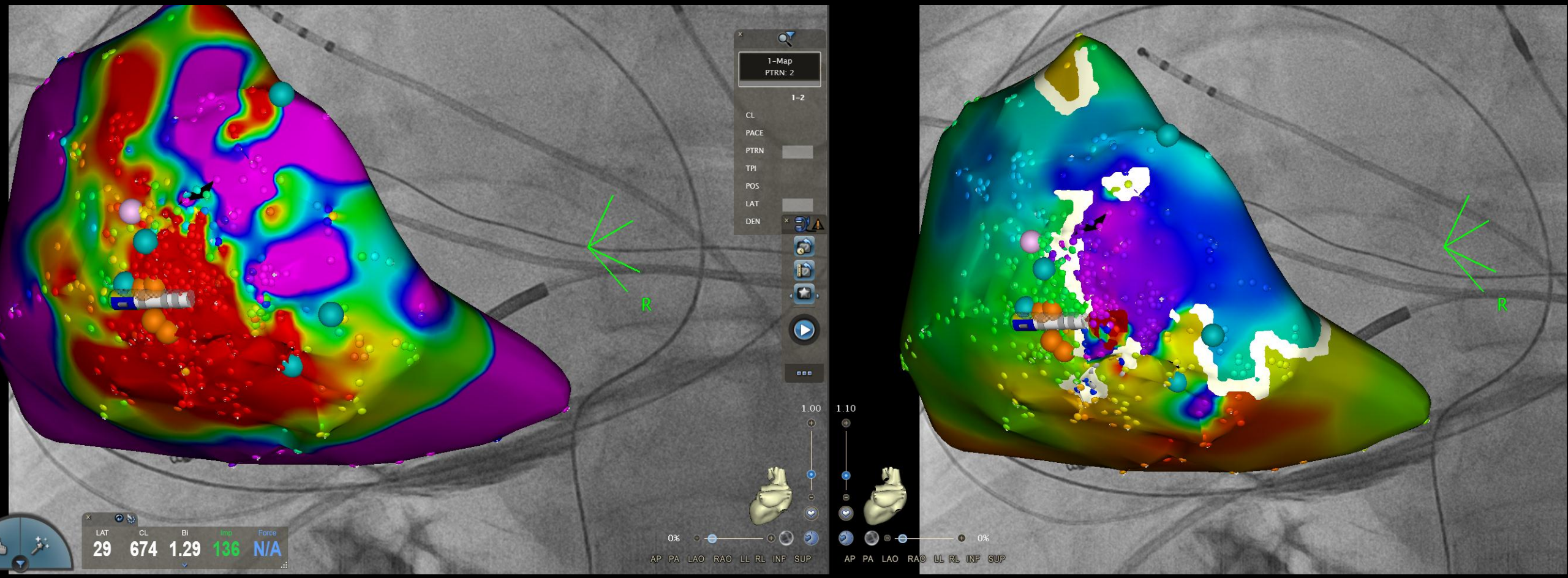
Epicardial Substrate Mapping: Bipolar

Epicardial Substrate Mapping: Unipolar

CMR:

Scar more compatible with unipolar mapping





Epicardial Substrate Mapping: Bipolar, modified 1.0 - 3.0 mV

CMR: Scar more compatible with unipolar mapping or modified bipolar mapping

Conclusion:

- Ablation of all late potentials
- Uneventful hospital stay
- No further VTs

ESC European Society of Cardiology

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REVIEW

Magnetic resonance imaging guidance for the optimization of ventricular tachycardia ablation

Rahul K. Mukherjee[1]*, John Whitaker[1], Steven E. Williams[1,2], Reza Razavi[1], and Mark D. O'Neill[1,2]

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Suggested Reading

RESEARCH LETTER

Standard Ablation Versus Magnetic Resonance Imaging–Guided Ablation in the Treatment of Ventricular Tachycardia

Circ Arrhythm Electrophysiol. 2018 Jan;11(1):e005973

Suggested Reading

Value of cardiac magnetic resonance imaging and programmed ventricular stimulation in patients with frequent premature ventricular complexes undergoing radiofrequency ablation

Miki Yokokawa, MD,* Konstantinos C. Siontis, MD,* Hyungjin Myra Kim, ScD,* Jadranka Stojanovska, MD, MS,† Rakesh Latchamsetty, MD,* Thomas Crawford, MD,* Krit Jongnarangsin, MD,* Hamid Ghanbari, MD,* Ryan Cunnane, MD,* Aman Chugh, MD,* Frank Pelosi, Jr. MD,* Hakan Oral, MD,* Fred Morady, MD,* Frank Bogun, MD*

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Suggested Reading

Ablation Lesion Characterization in Scarred Substrate Assessed Using Cardiac Magnetic Resonance

Susumu Tao, MD, PhD,[a] Michael A. Guttman, MS,[a] Sarah Fink, MS,[a] Hassan Elahi, MS,[b] Kaustubha D. Patil, MD,[a] Hiroshi Ashikaga, MD, PhD,[a,b] Aravindan D. Kolandaivelu, MD,[a] Ronald D. Berger, MD, PhD,[a] Marc K. Halushka, MD, PhD,[c] Ehud J. Schmidt, PhD,[a] Daniel A. Herzka, PhD,[b] Henry R. Halperin, MD, MA[a,b,d]

Suggested Reading