

# Difficult accessory pathway ablation

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# Background

- ▶ 46 Year old builder
- ▶ Originally referred in 2007 age 37
- ▶ Palpitations and pre-syncope at work
- ▶ Could terminate with Valsalva manoeuvre
- ▶ Ventricular pre-excitation



# EPS#1 January 2008

- ▶ Anteroseptal pathway ERP 600/280 ms
- ▶ Readily inducible orthodromic AVRT  $\pm$  LBBB
- ▶ Earliest ventricular activation around 1 o'clock on the TVA at site with clear His potentials with atrial extras timed to block in the pathway
- ▶ IV flecainide resulted in loss of pre-excitation after 100mg
- ▶ Did not proceed to RFA
- ▶ Oral flecainide 100mg bd

# Progress

- ▶ Remained well with relatively few palpitations 2008-2014
- ▶ Stopped flecainide 2010
- ▶ Presented to local DGH April 2015 with pre-excited AF
- ▶ Shortest pre-excited RR interval 240ms
- ▶ Recommenced on flecainide
- ▶ Listed for cryoablation June 2015

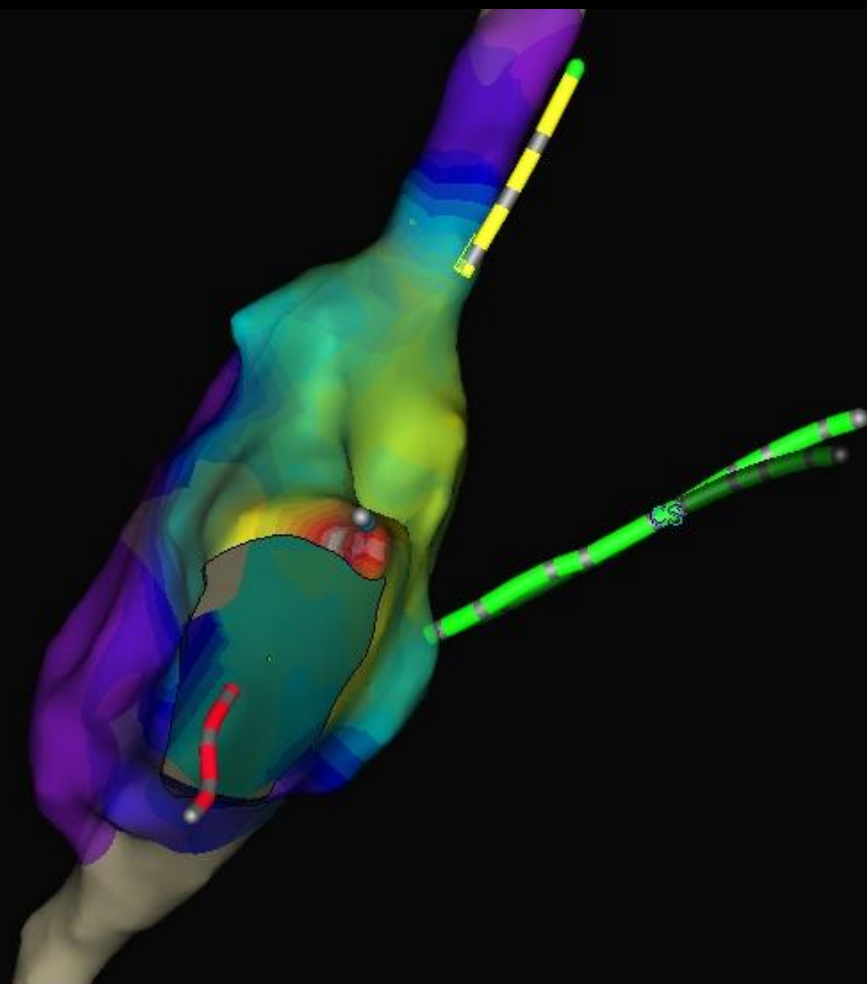
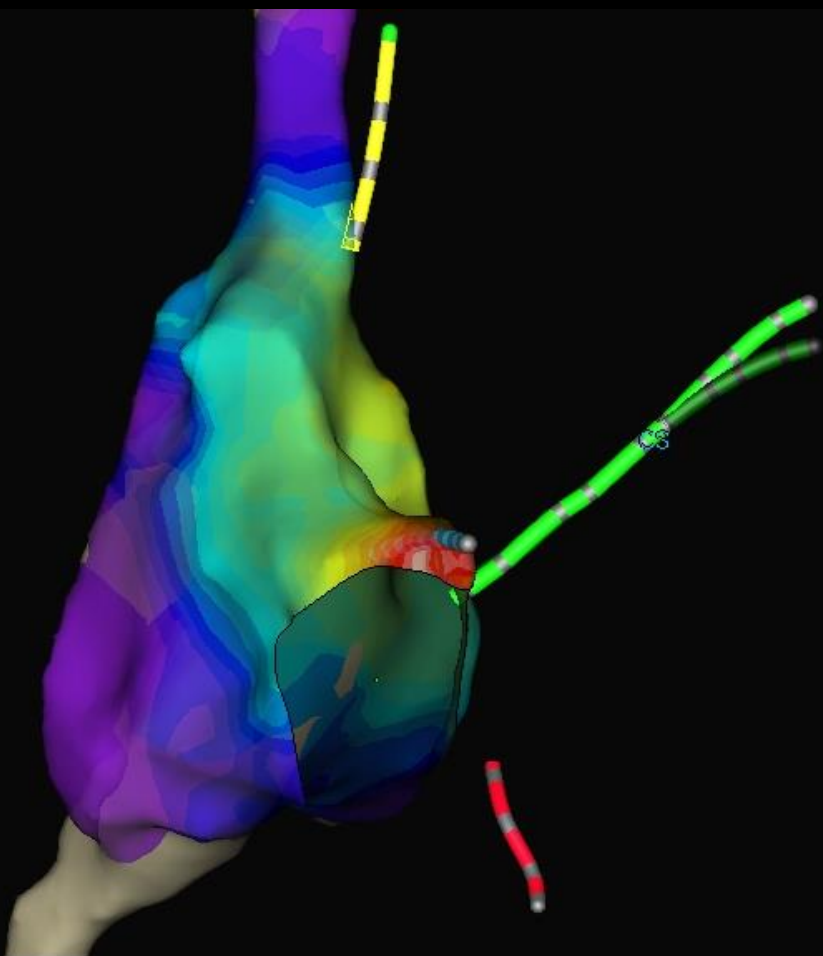


# EPS/RFA #2 July 2015

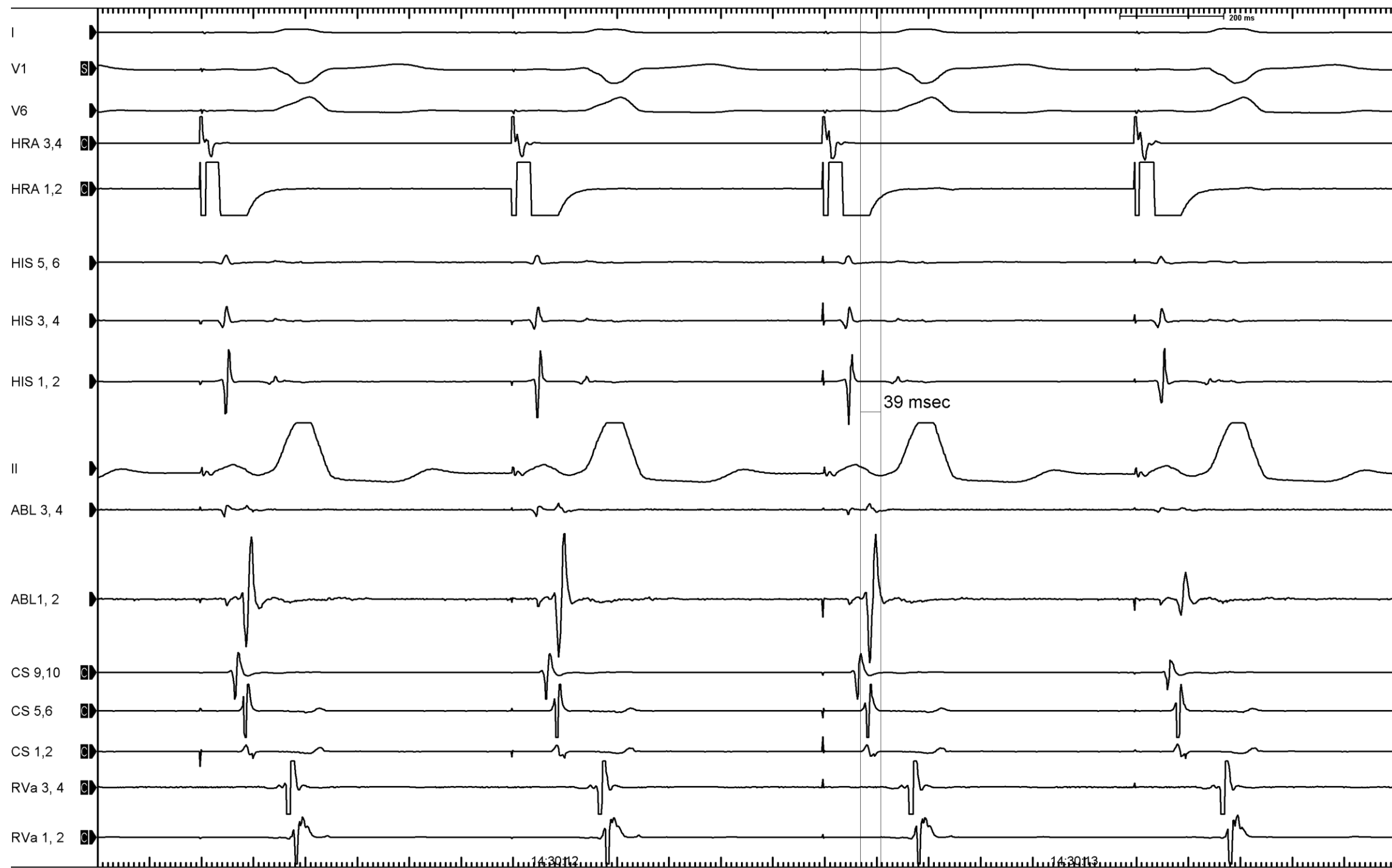
- ▶ Antegrade pathway ERP 600/280 ms
- ▶ Reliably inducible orthodromic AVRT  $\pm$  LBBB degenerating into pre-excited AF shortest RR 240ms
- ▶ Earliest atrial and ventricular activation mapped to 1 o'clock on the TVA
- ▶ Ventricular EGM up to 45ms pre-delta with fused AV signals
- ▶ Unsuccessful cryoablation despite multiple freezes and 4 hour procedure
- ▶ Abandoned
- ▶ Further attempt under GA planned

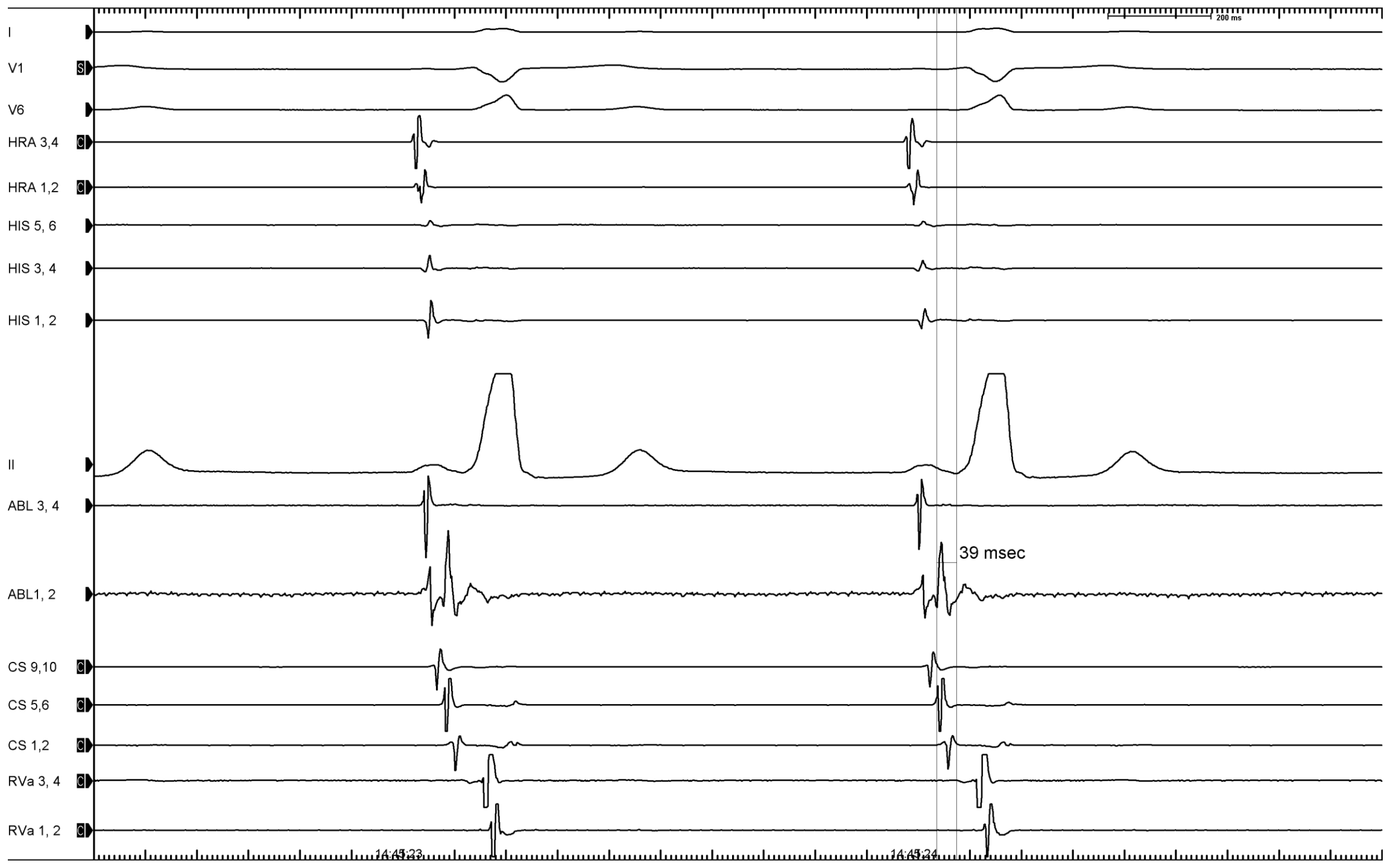
# EPS/RFA#3 January 2016

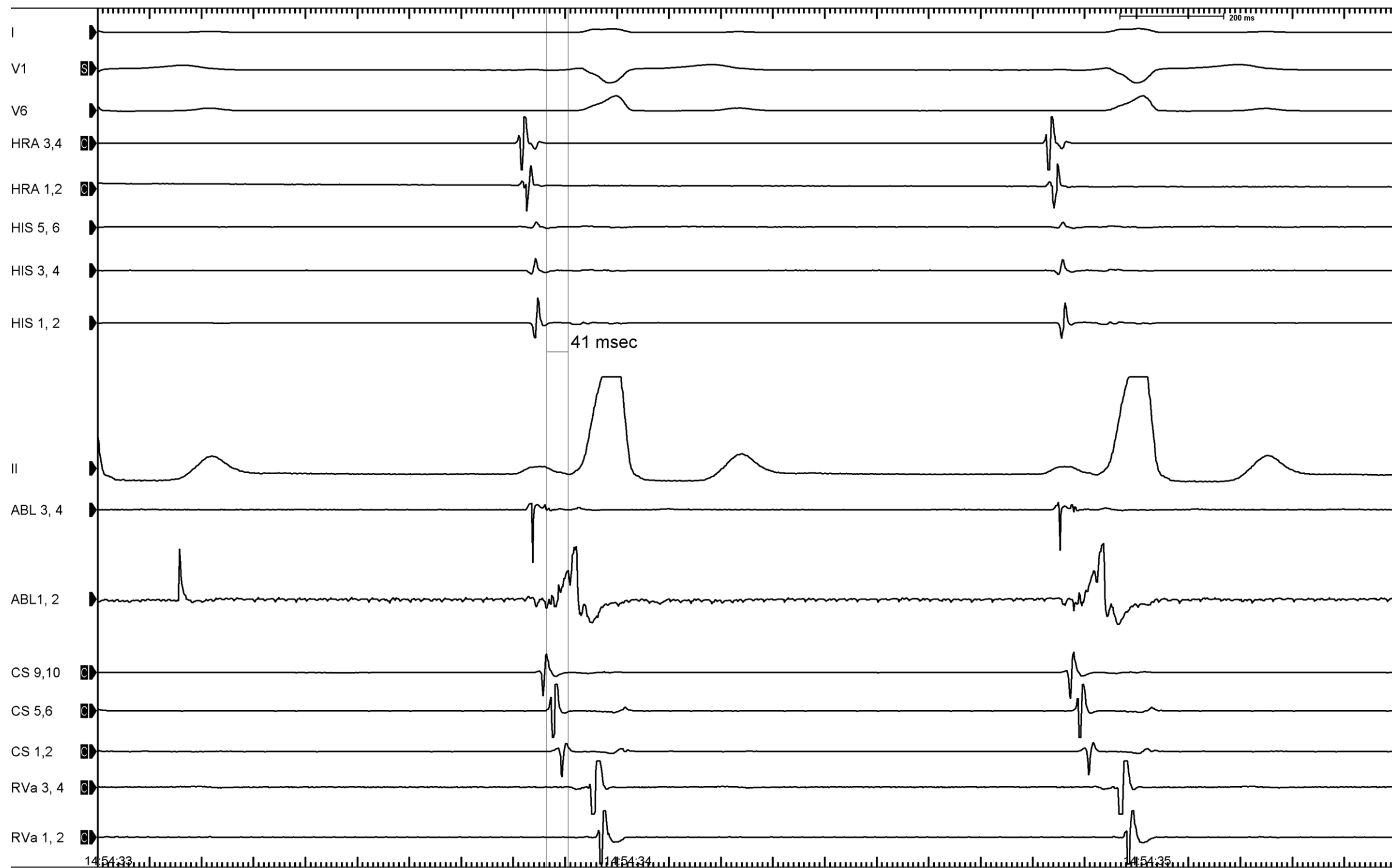
- ▶ General anaesthesia
- ▶ Atrial insertion of pathway mapped with Velocity
- ▶ Superior approach via RIJ
- ▶ Initial attempt with RF catheter from superior approach at ventricular site 39ms pre-delta with no His unsuccessful (20-30W)
- ▶ Cryoablation at multiple early sites unsuccessful
- ▶ Partial RBBB seen with atrial extras timed to block in pathway

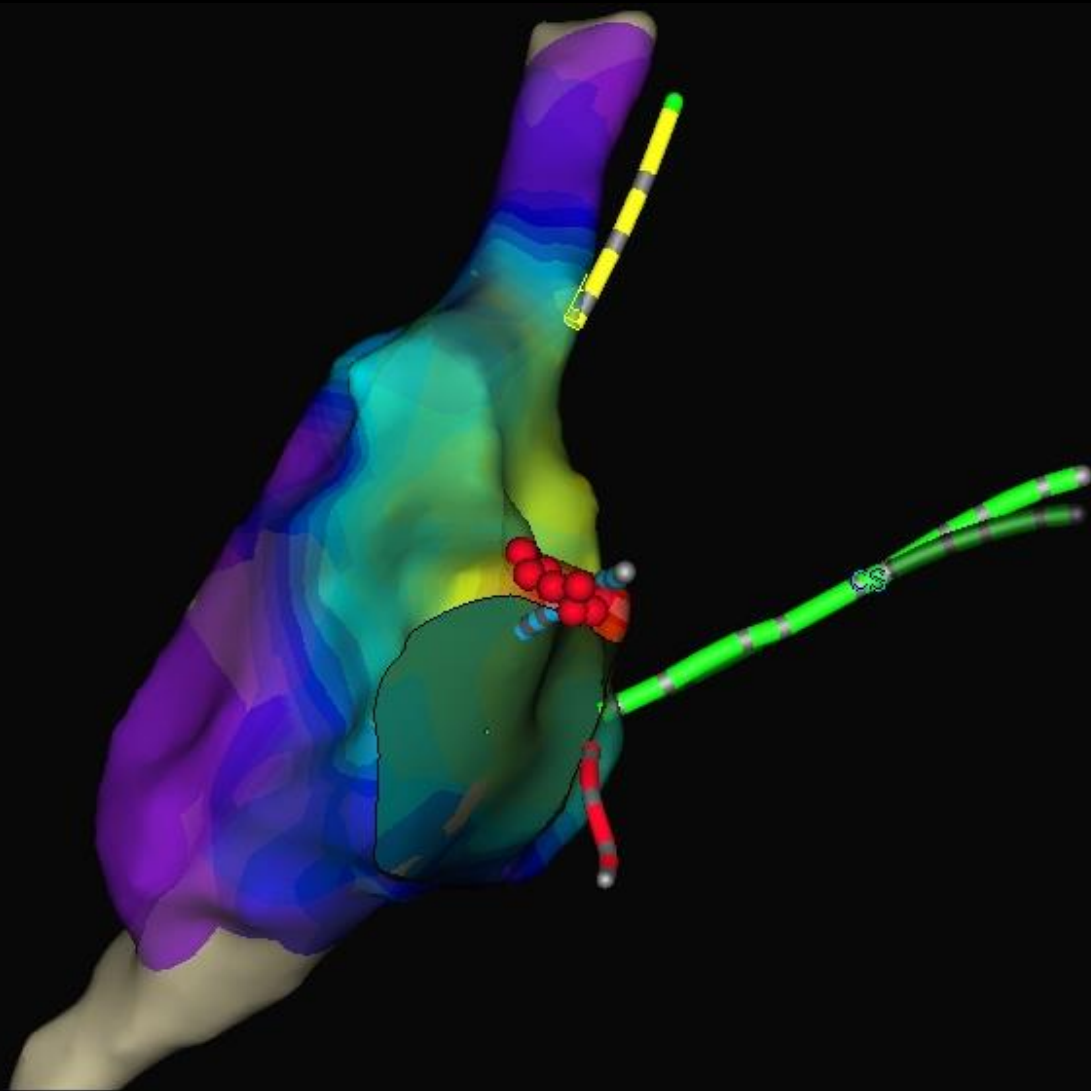


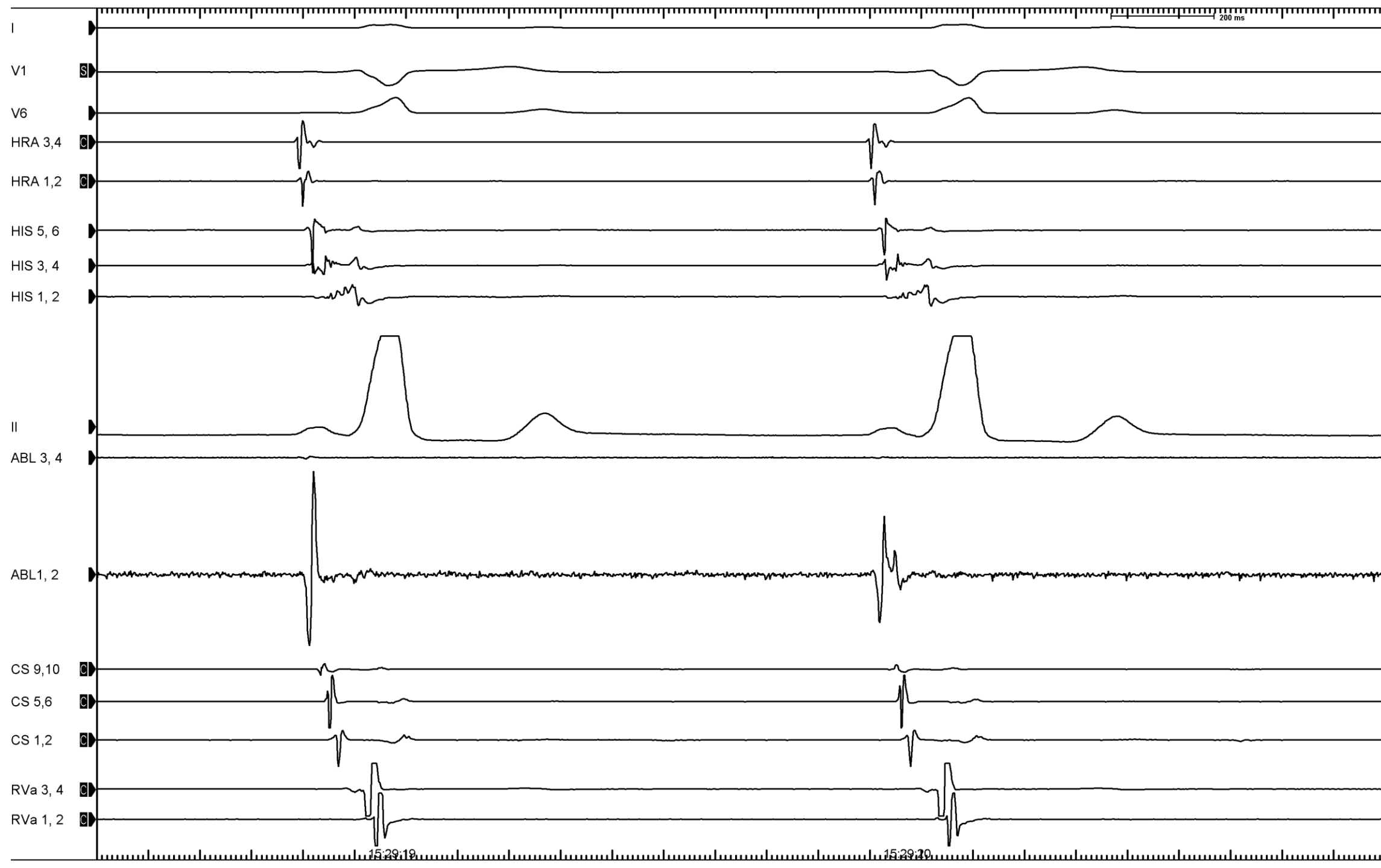


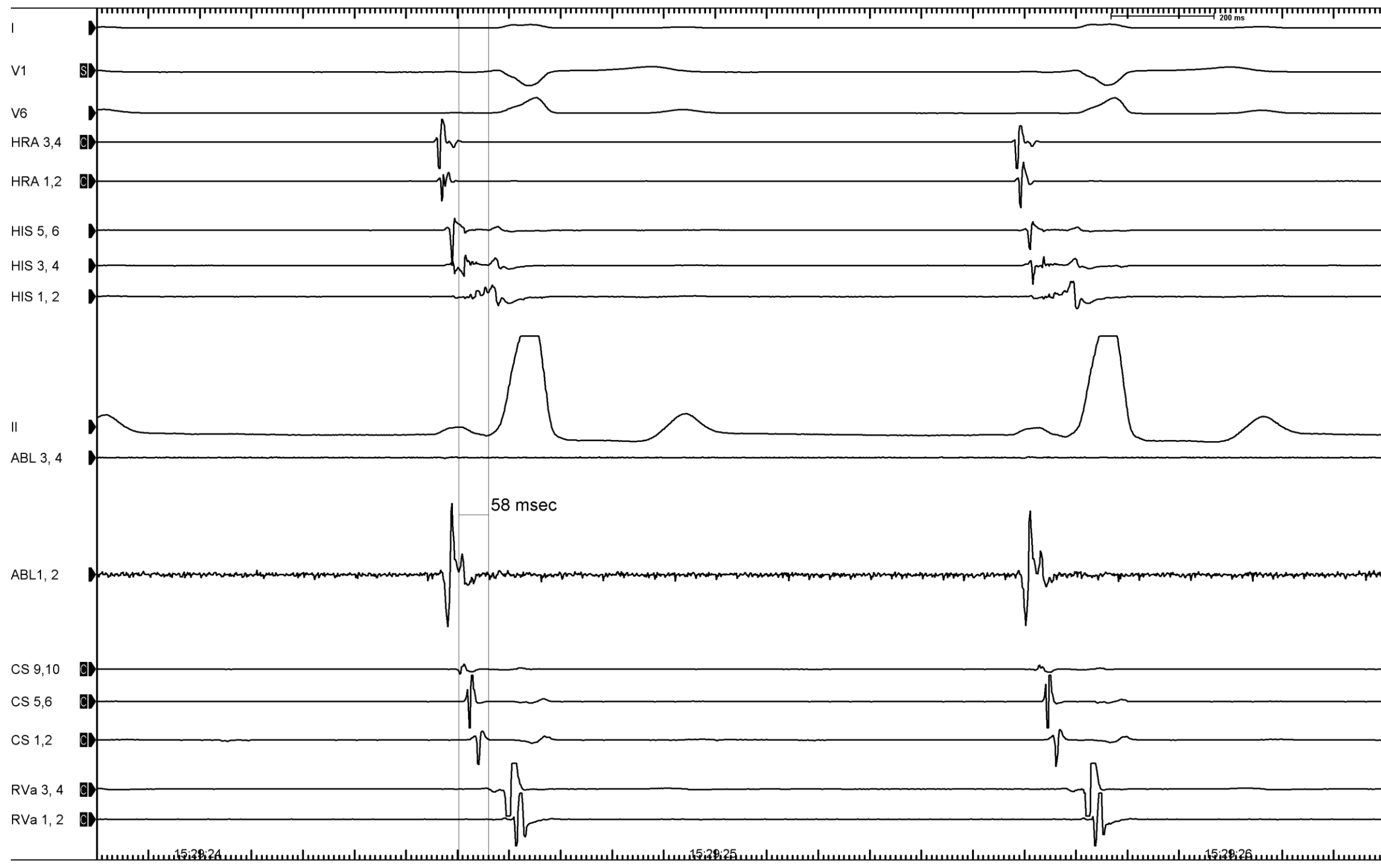




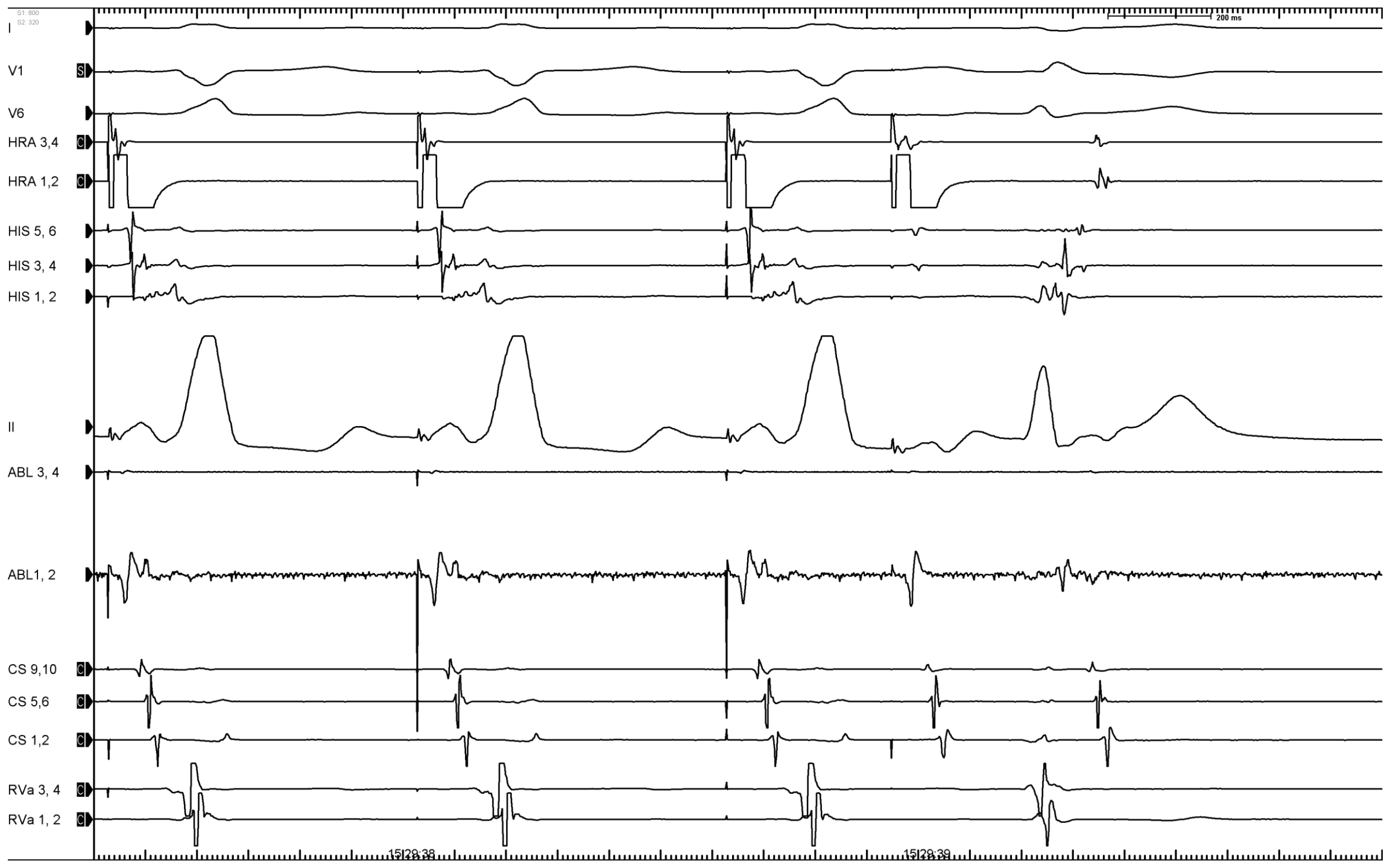


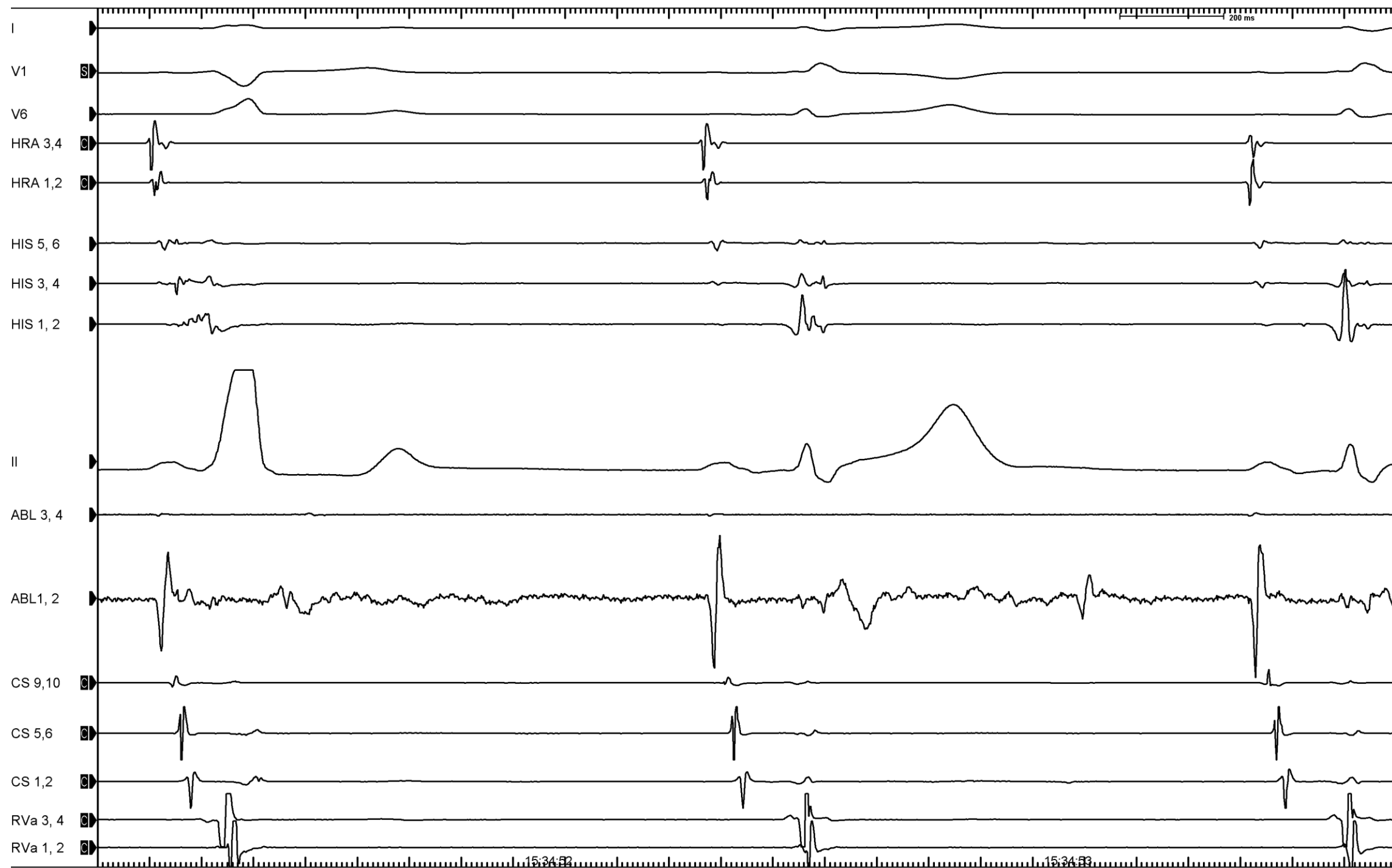


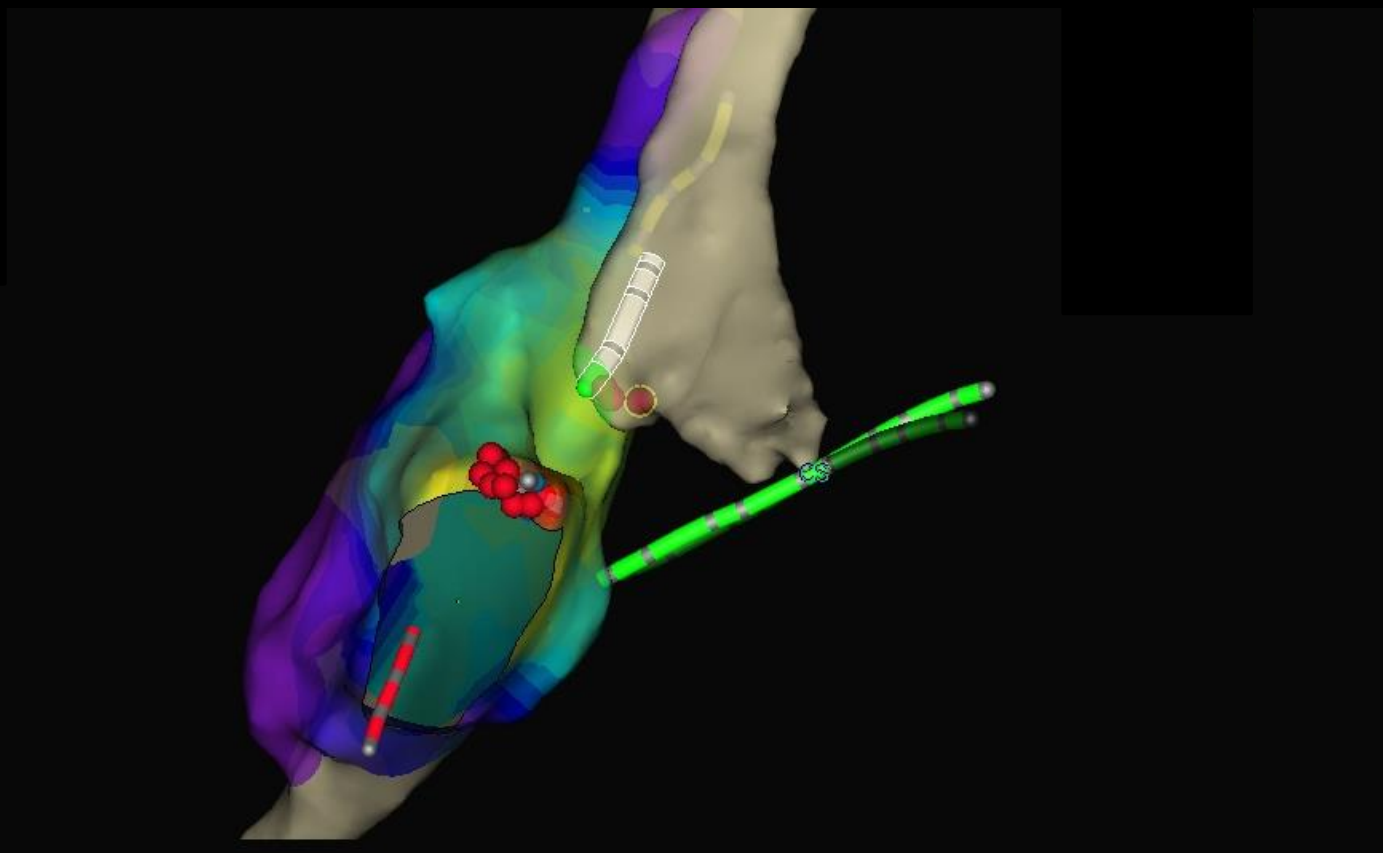
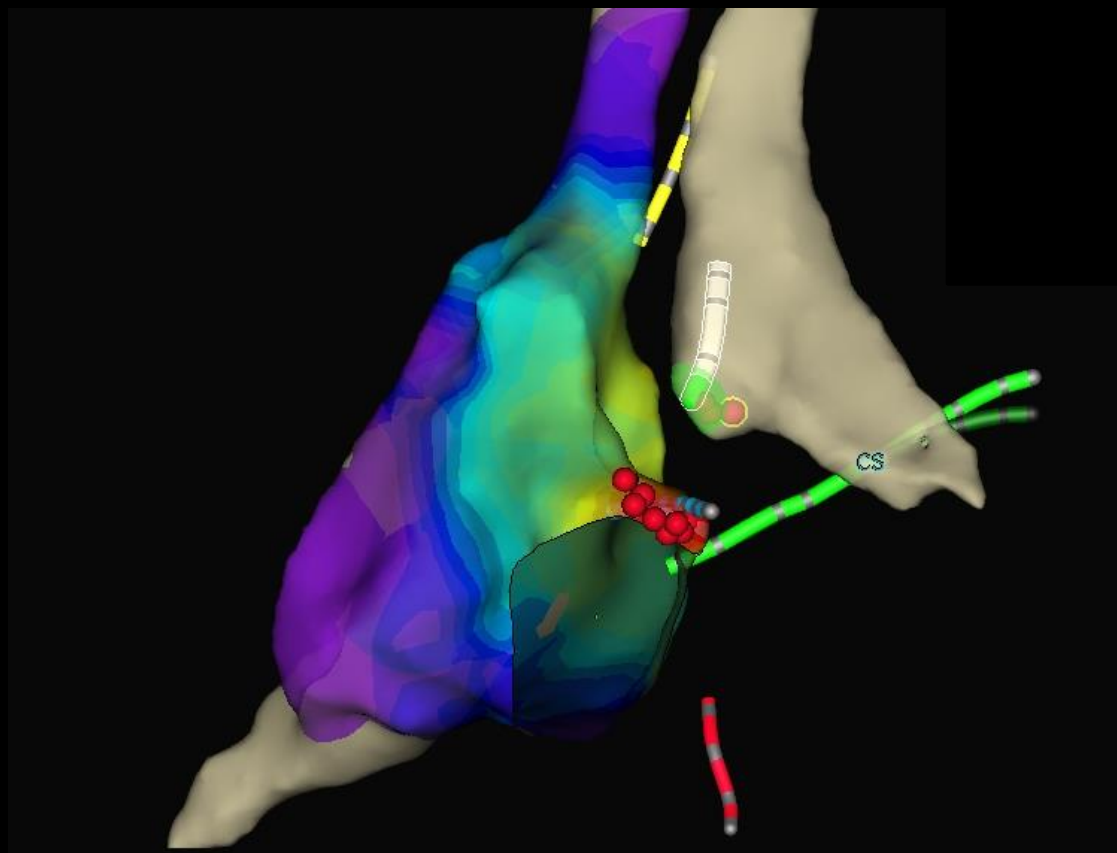




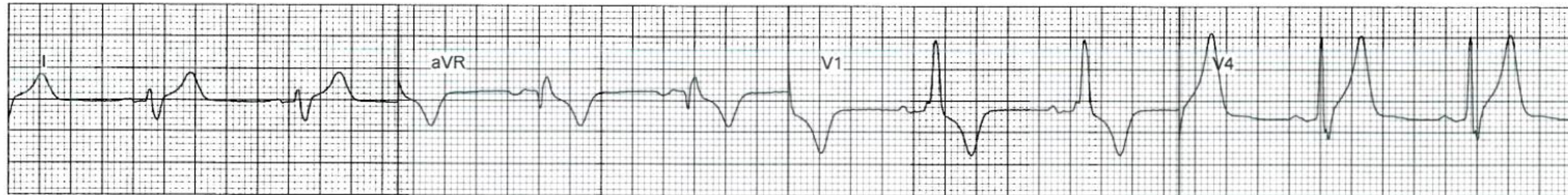










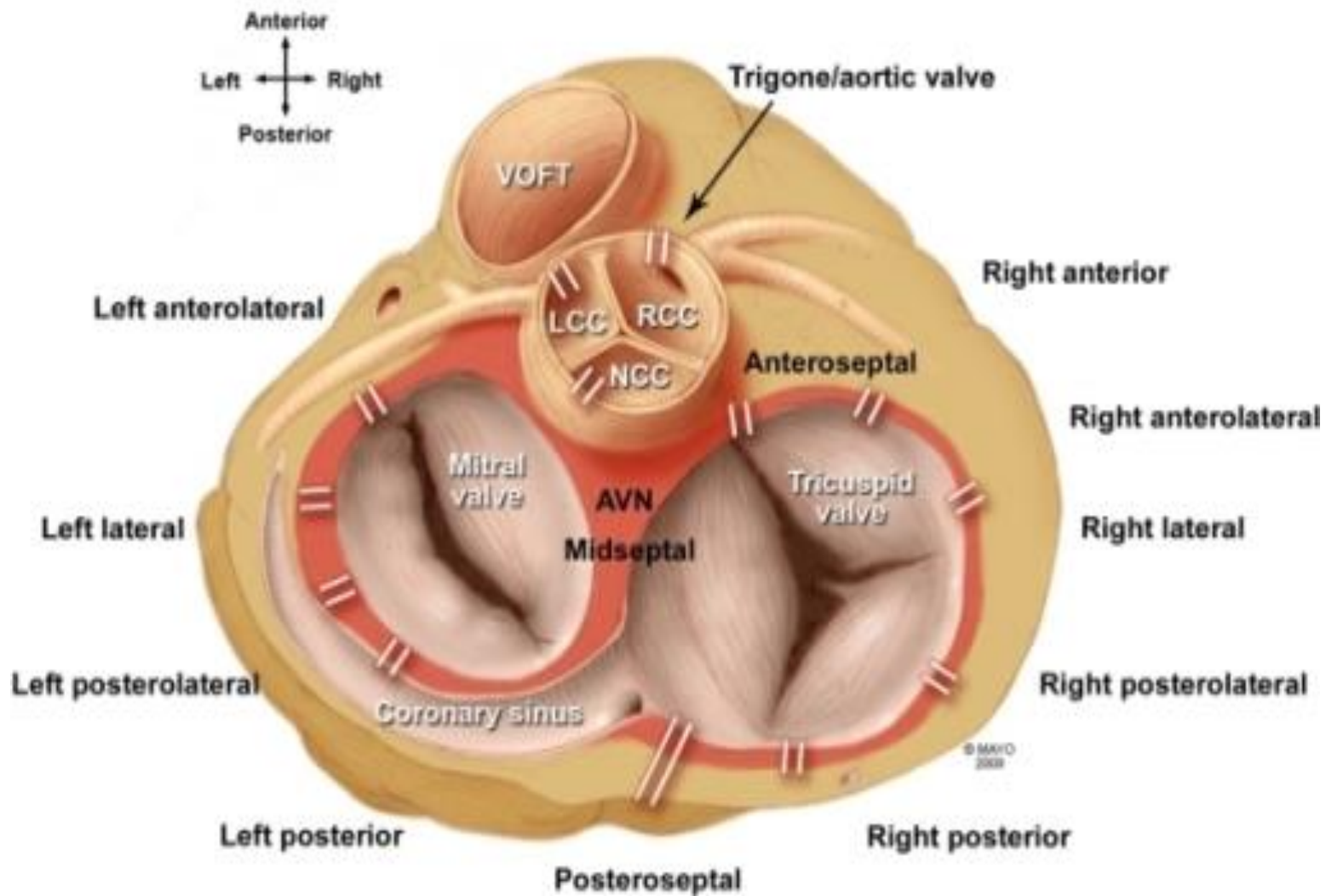


# Progress

- ▶ Last clinic review July 2016
- ▶ No recurrence
- ▶ Persisting partial RBBB
- ▶ Symptom free



## Accessory Pathway Locations





# Anteroseptal pathways ablated from the aortic cusps

- ▶ 16 case reports including 36 patients with septal APs ablated from the aortic cusps with failed right sided approach
- ▶ 67% located at NCC, 19% RCC, 5.5% at LCC, 5.5% RCC-NCC commissure, 3% LCC-NCC commissure
- ▶ Polarity of delta wave in lead V1 not site specific
  - ▶ NCC pathways more commonly have positive delta in lead V1
  - ▶ RCC pathways negative delta in lead V1
- ▶ NCC pathways delta wave less positive in lead III than in lead II

# Anteroseptal pathways ablated from the aortic cusps

- ▶ Larger atrial EGMs in NCC pathways
- ▶ Larger ventricular EGMs in RCC and variable in LCC
- ▶ RF (non-irrigated and irrigated used in 34/36 cases)
- ▶ Cryoablation 2 cases
- ▶ Incidence of AV block 1 case (2.7%)

# Summary

- ▶ Anteroseptal pathways are uncommon but associated with lower catheter ablation success rates and higher incidence of AV block
- ▶ Mapping the aortic cusps useful particularly after a failed right sided approach
- ▶ Ablation can be safely performed in the aortic cusps with a high degree of success and lower risk of collateral damage

