
Challenging SVT Ablation

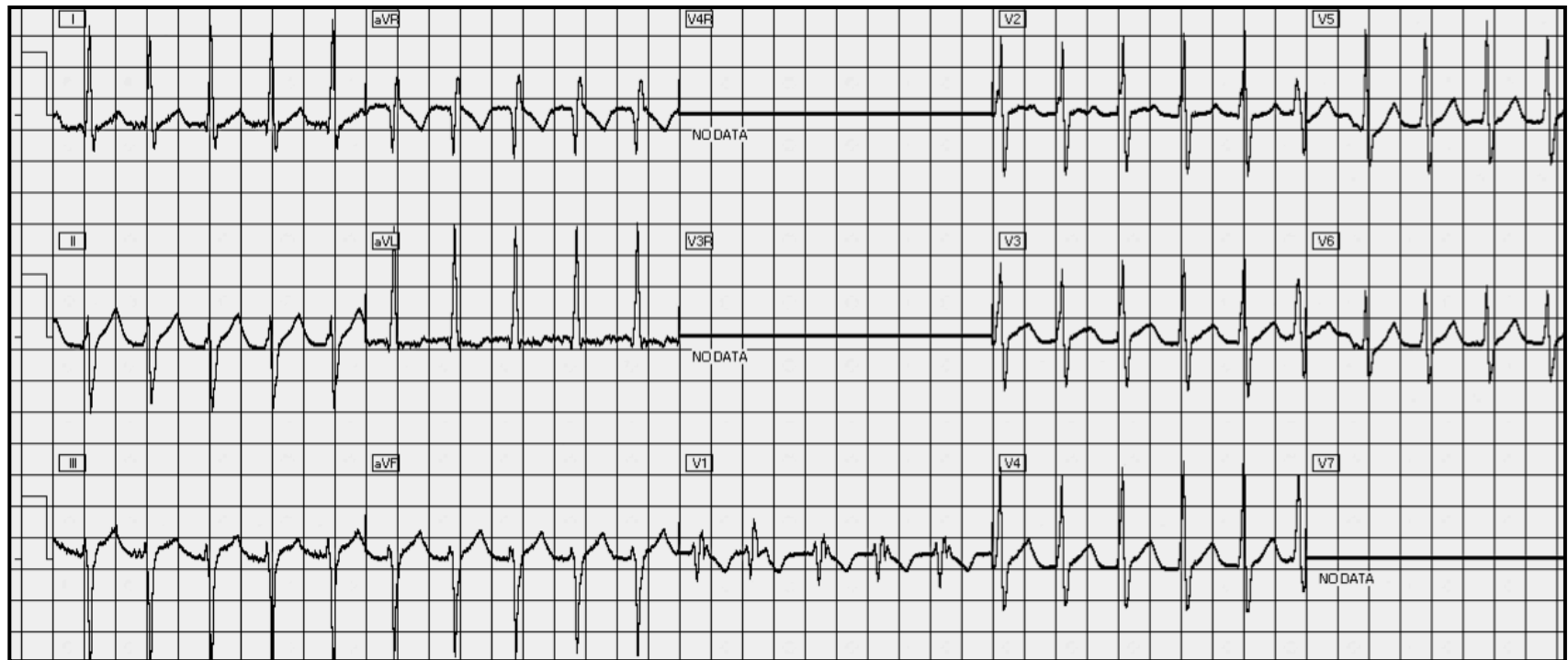


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Boston Children's Hospital
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***Pedirhythm VII
February 2017***

Challenging SVT

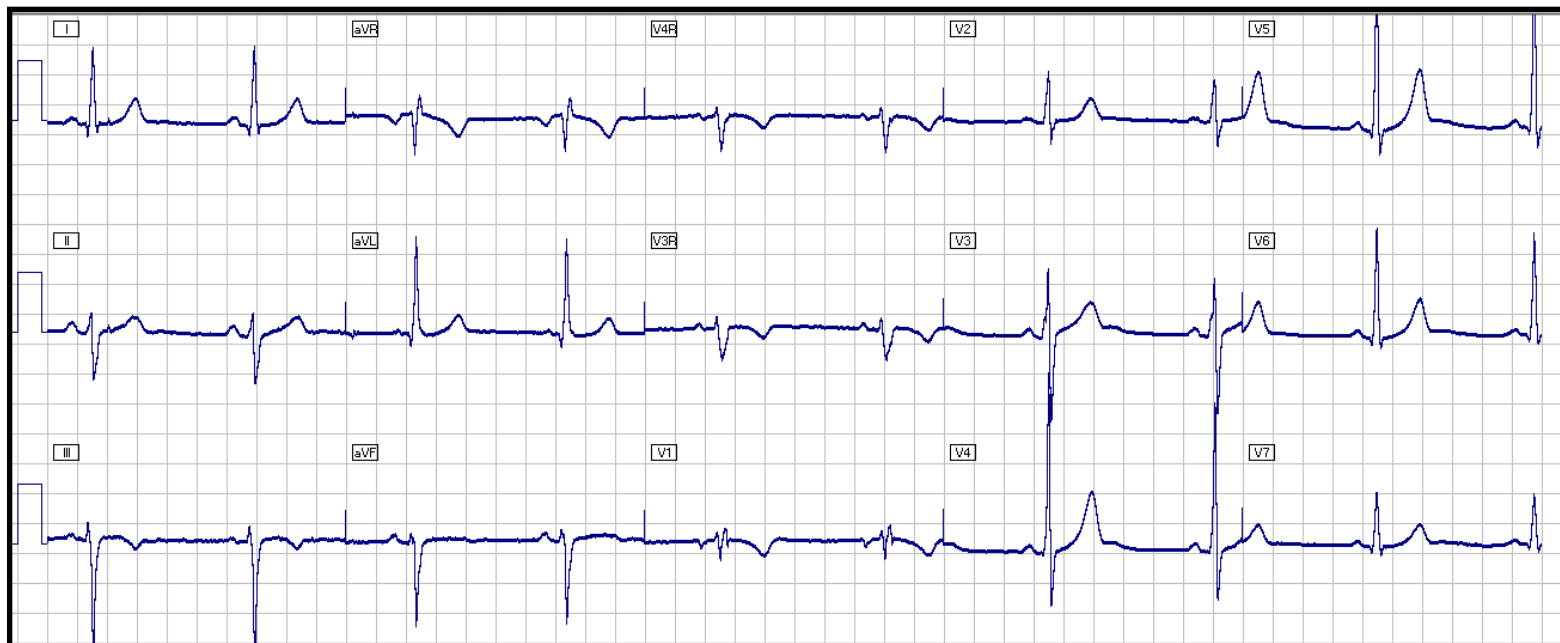
Hx: 13 year old male athlete, otherwise well, presents to ER in sustained SVT with dizziness, terminated with adenosine.



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Referred for discussion of therapy options.

PE: Fixed split S2 with soft P2. 1/6 SEM LUSB



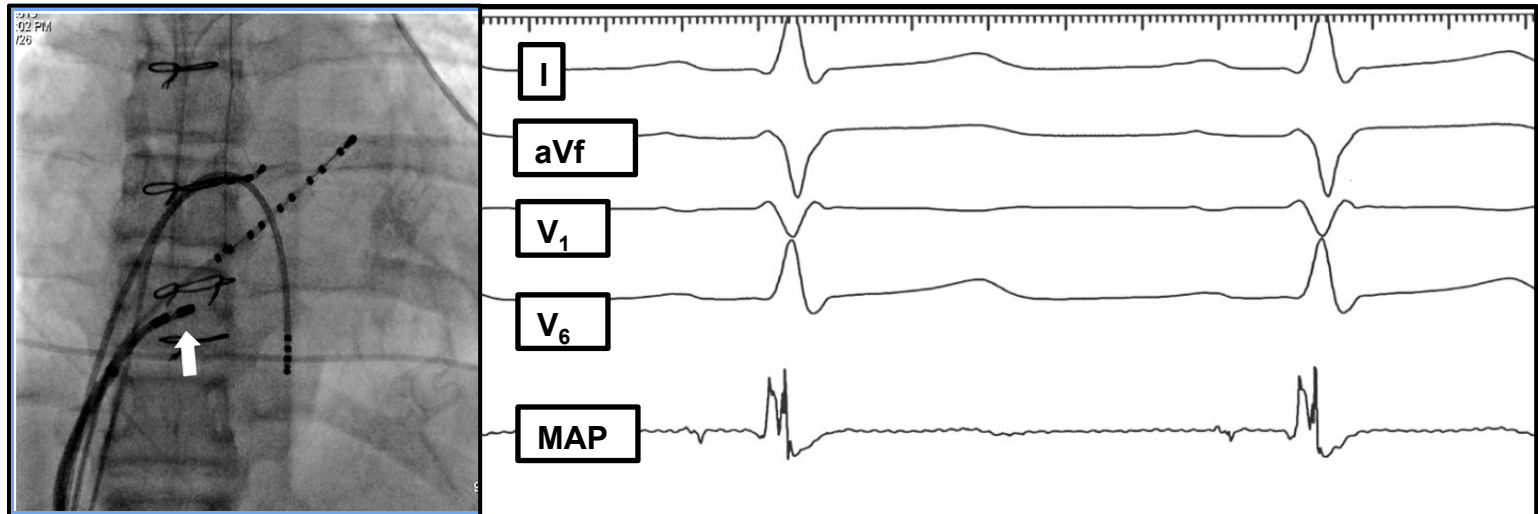
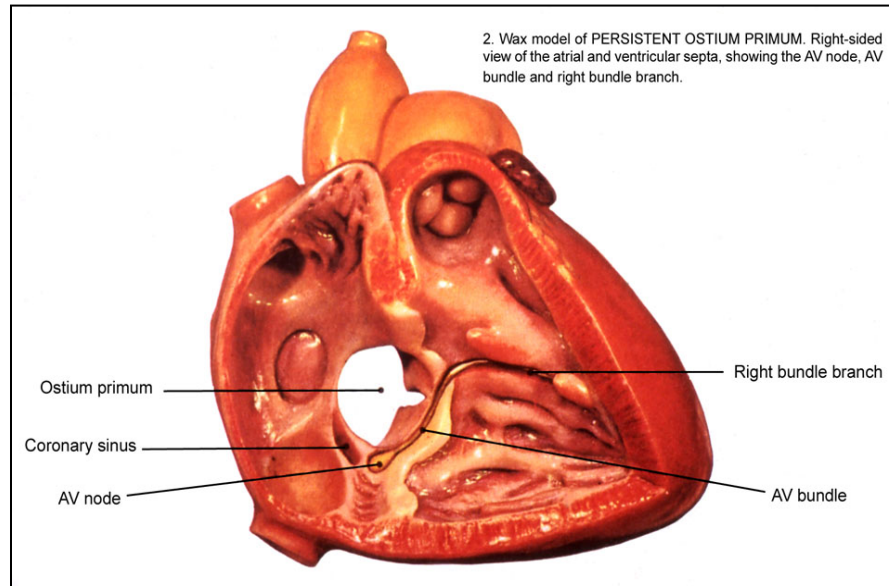
Echocardiogram: Primum ASD

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EPS #1 (May 2014):

- Performed under general endotracheal anesthesia (isoflurane).
- No SVT inducible baseline / Isuprel / epinephrine /atropine.
- No dual AV nodal pathway physiology.
- Decremental VA , earliest low septal (near HBE).
- Apex / base VA and para-His pacing suggest all retrograde via AV node.
- No reliable target. Presumptive AVNRT.
- Conservative cryoablation in low septal region beneath His level of HBE

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Post-ablation:

- Sustained SVT recurred 5 weeks later. Beta-blocker begun.

Surgery (August 2014):

- Uncomplicated primum ASD closure. No SVT. AV conduction OK.

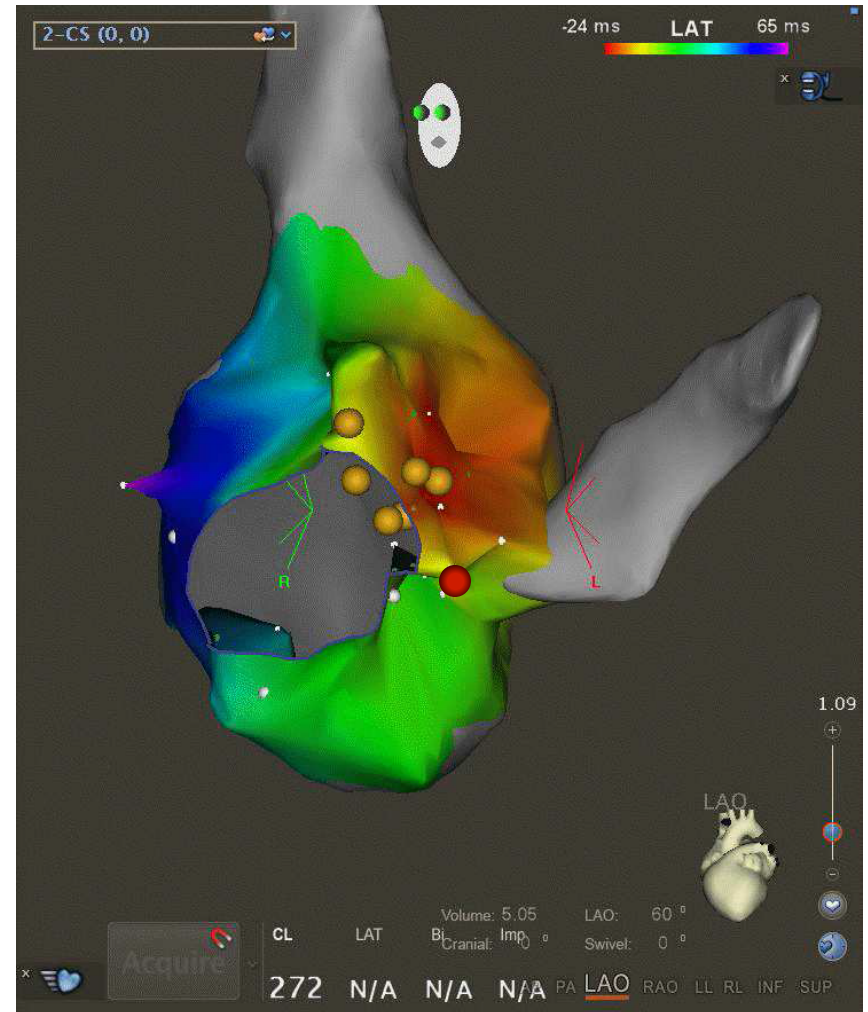
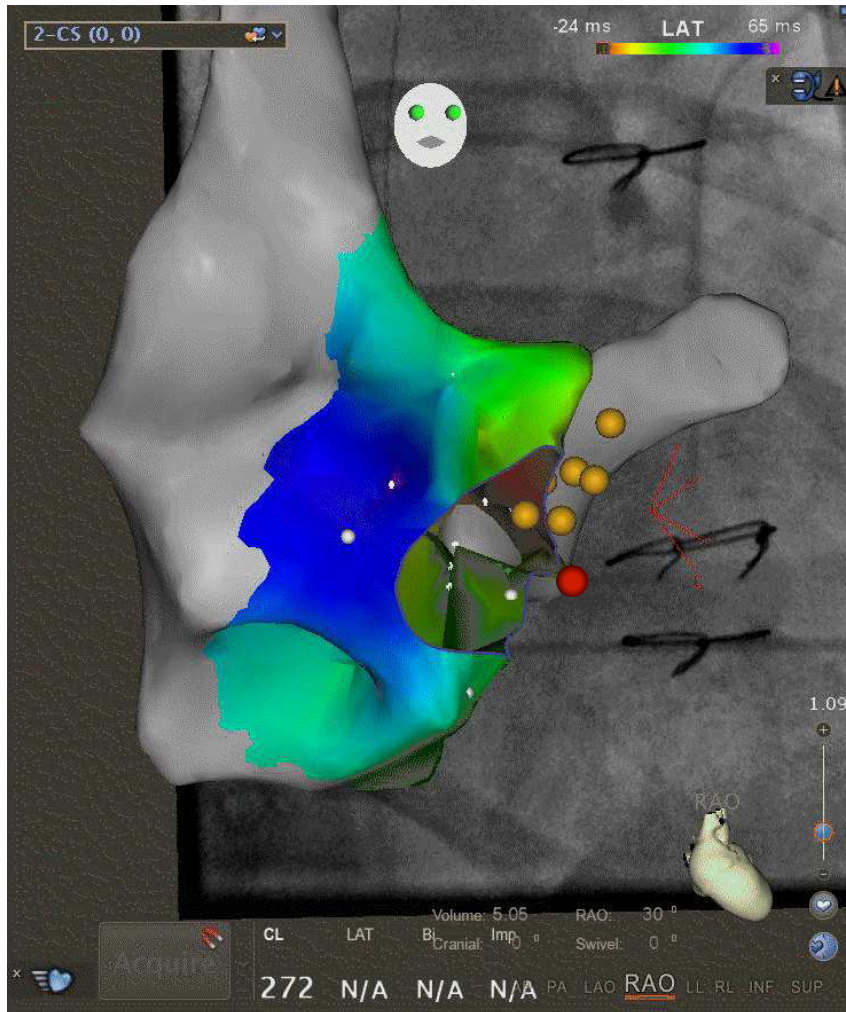
Post-Surgery:

- Beta-blocker discontinued (fatigue & depression). SVT recurred.

EPS #2 (March 2015):

- Performed under conscious sedation
- Still no SVT
- Identical findings
- FP retrograde activation mapped
- 7 sec RF low in septum away from FP region...1st degree AV blk

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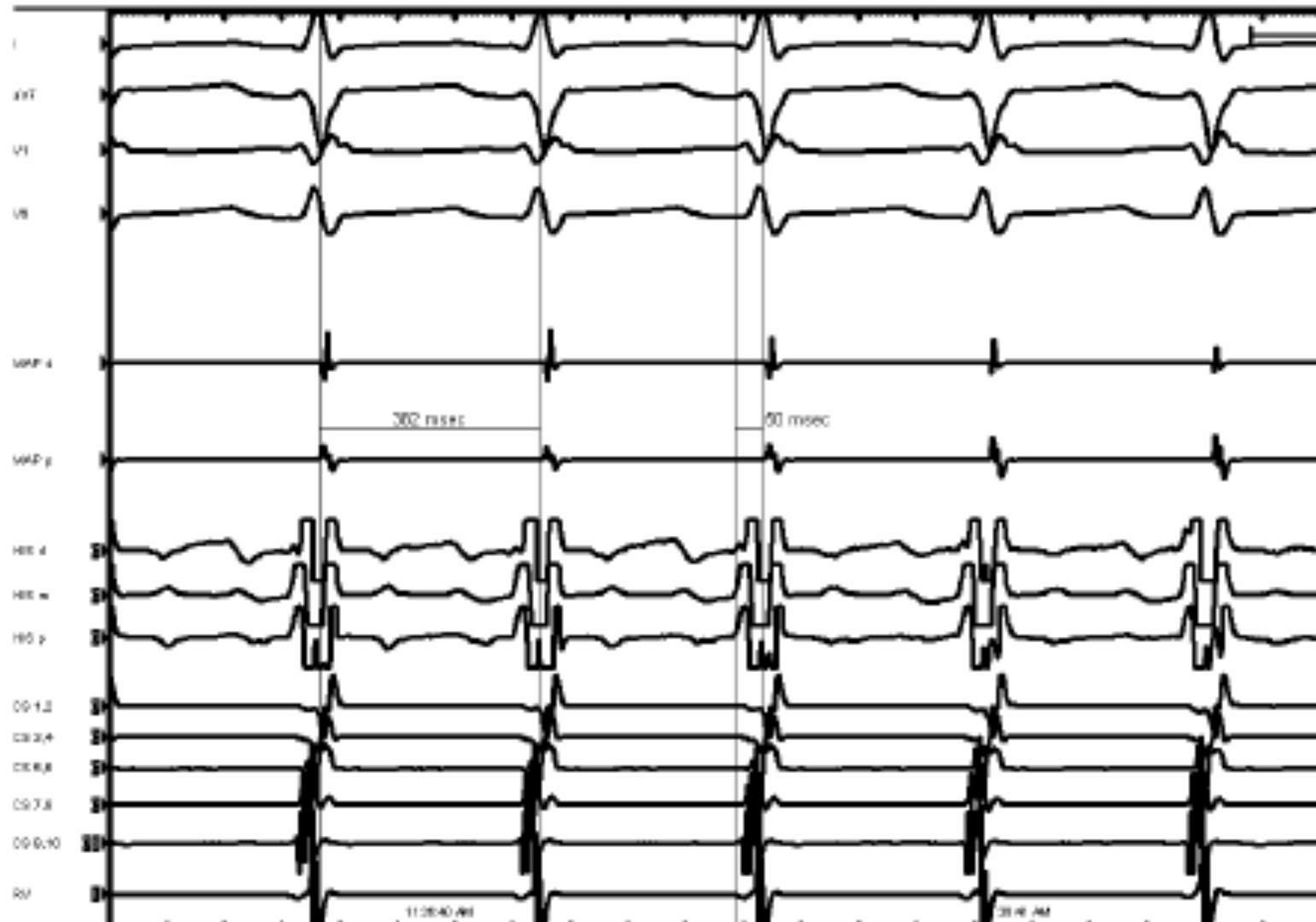
Post-ablation:

- Multiple recurrences sustained SVT requiring ER visits
- Trial of verapamil failed.

EPS #3 (May 2015):

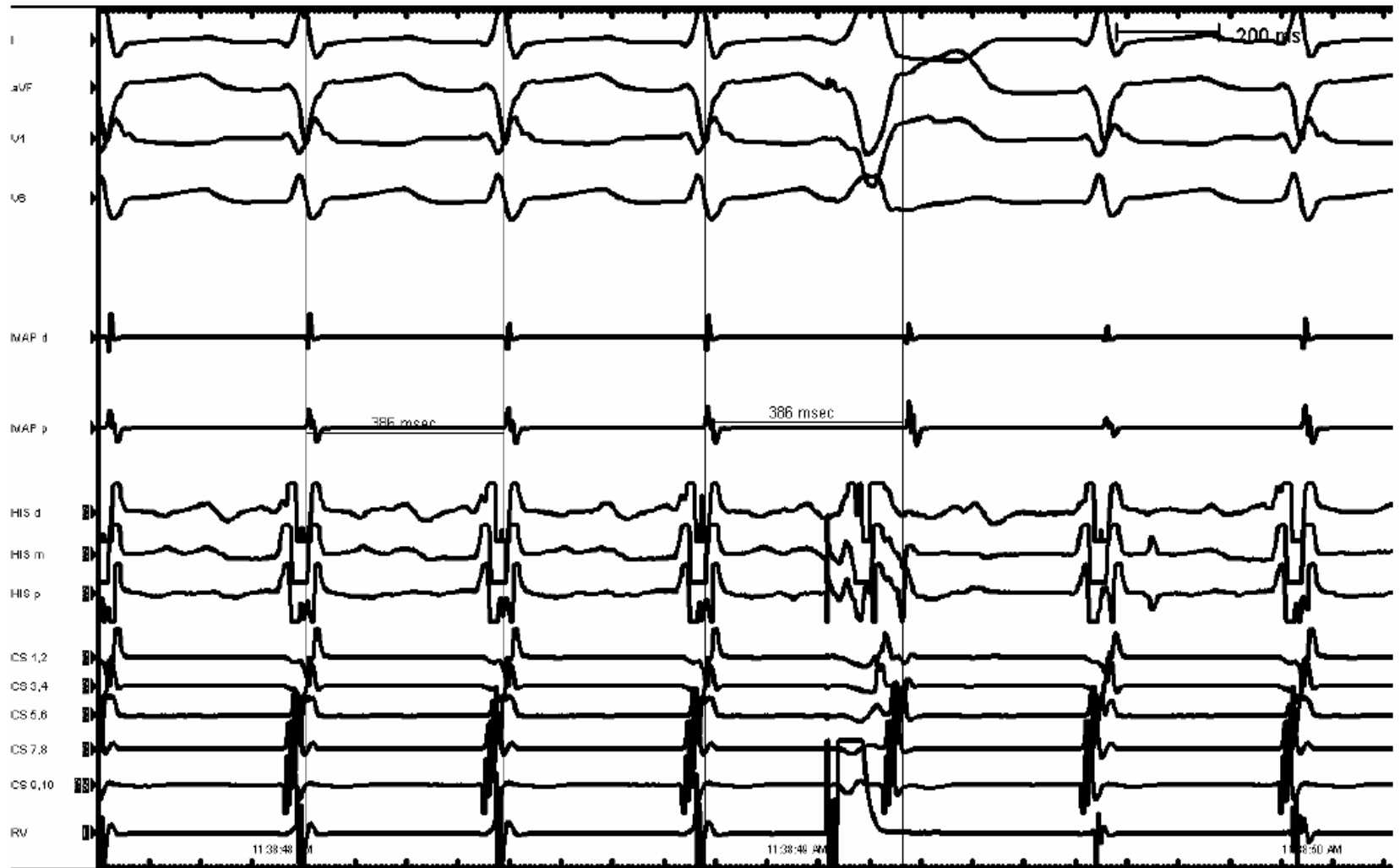
- Performed under conscious sedation.
- Clear dual-pathways, sustained slow-fast AVNRT Induced.

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HRPVC failed to advance atrial timing during tachycardia



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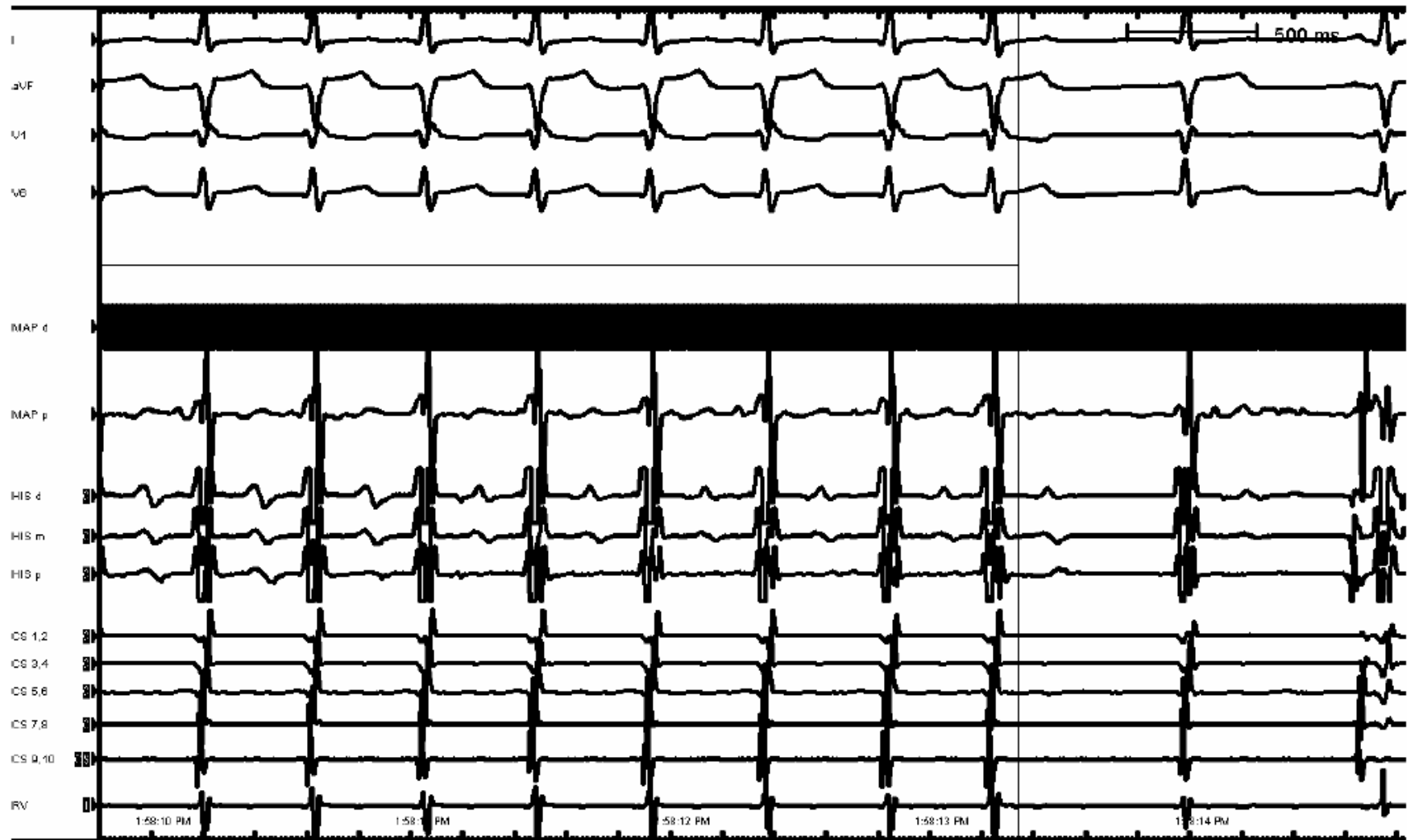
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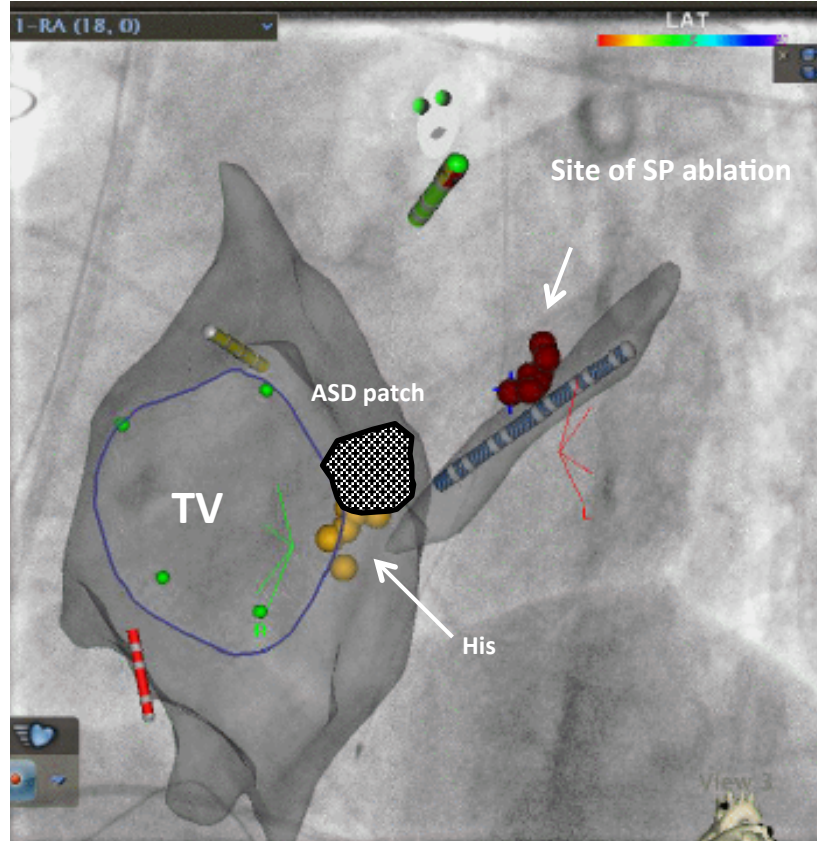
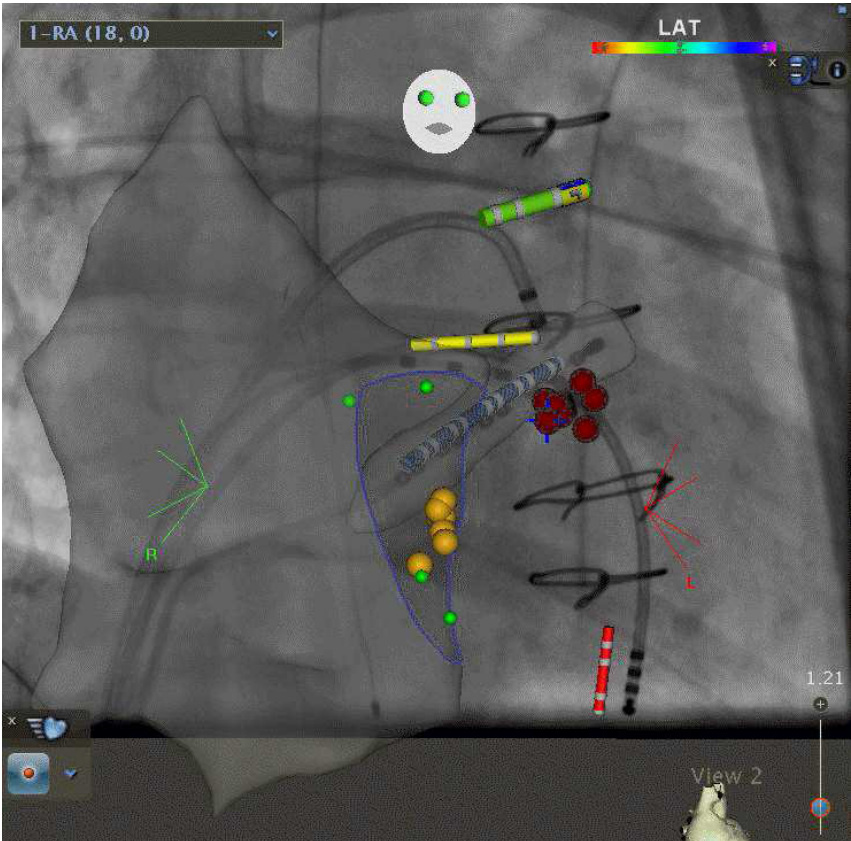
EPS #3 (May 2015):

- Performed under conscious sedation.
- Clear dual-pathways, sustained slow-fast AVNRT Induced.
- APBs for “resetting” at site of presumptive SP
 - *low septum (no His advancement)*
 - *in MOCS (no His advancement)*
 - *transseptal posterolateral MV (12 msec His advancement)*
- Cryomapping (-30 degrees C)
 - *low septum (no change)*
 - *in MOCS roof (slowing, but no termination)*
 - *transseptal left paraseptal (slowing, but no termination)*
 - *transseptal posterolateral MV (SP blk and termination!)*
- ~~Cryoablation and RF ablation at posterolateral AV ring.~~

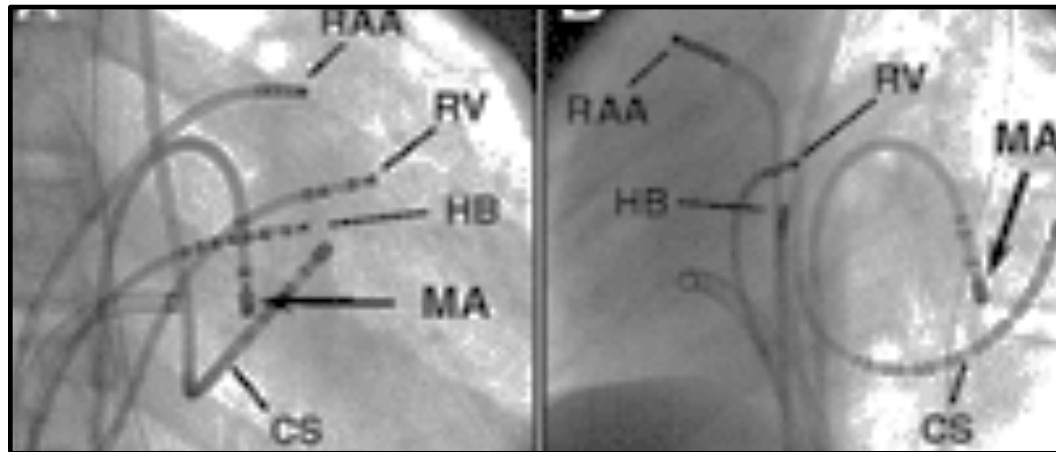
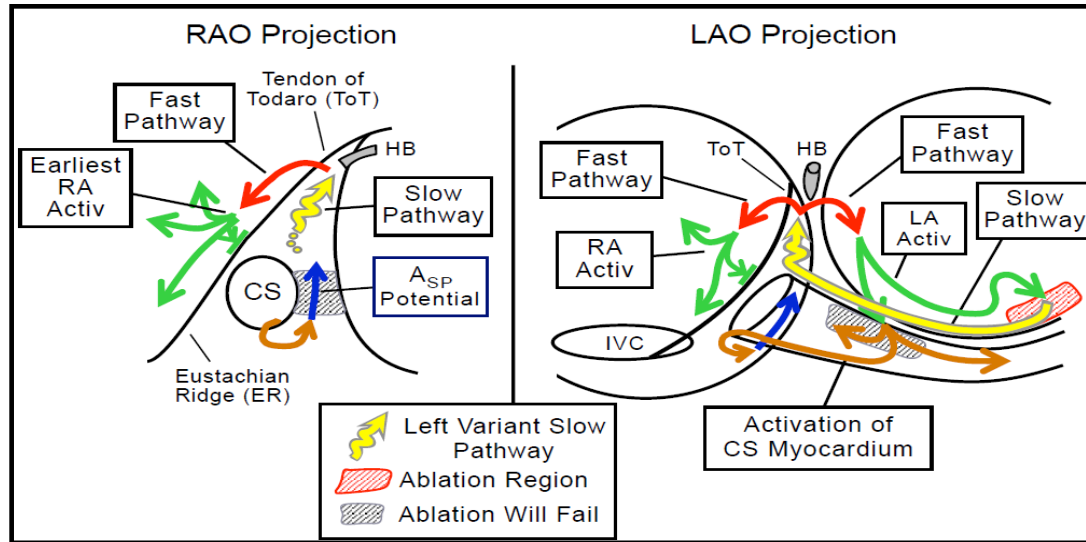
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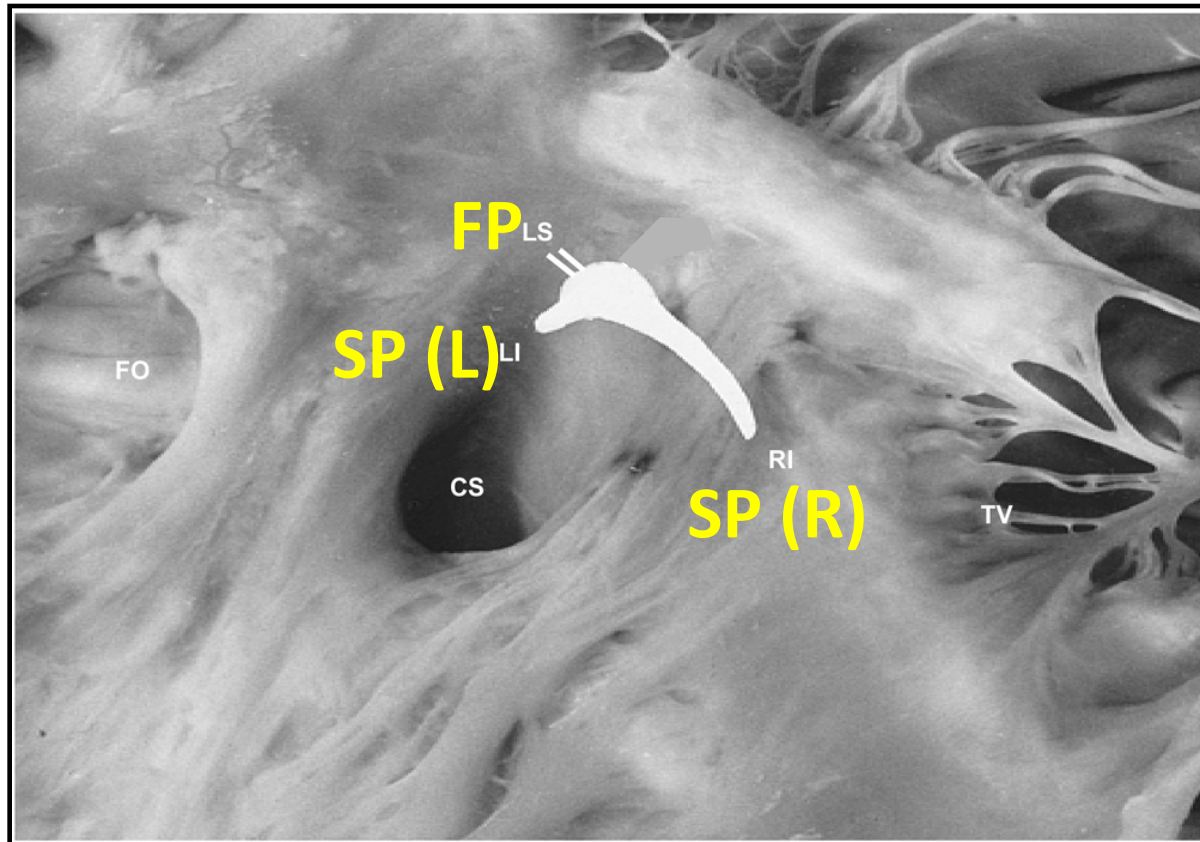


AVNRT (far-left SP..... ?CS musculature?)

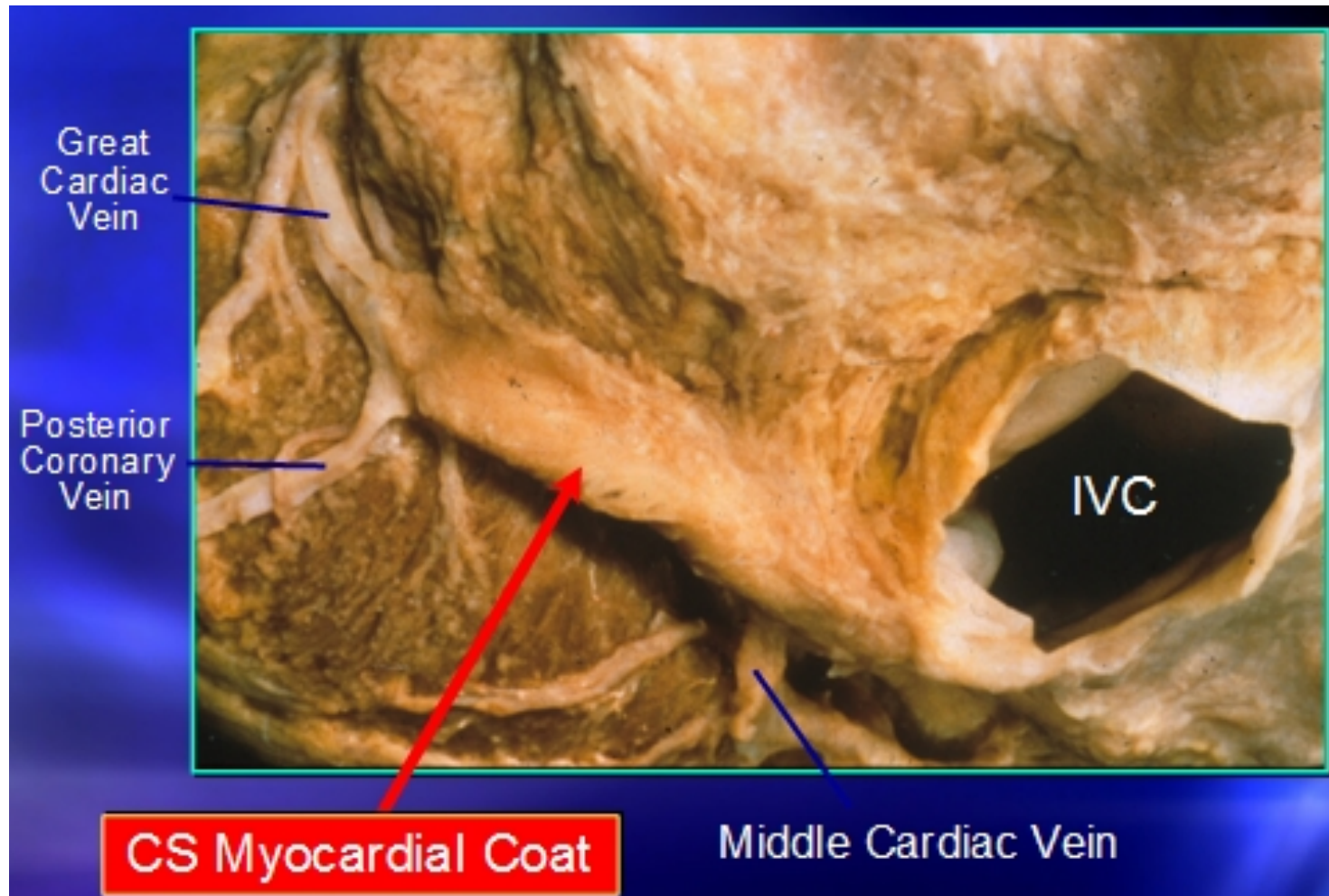


Nakagawa and Jackman. Circulation 2007;116:2465-2478

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Post-ablation:

- no SVT x 21 months
- off all meds.