

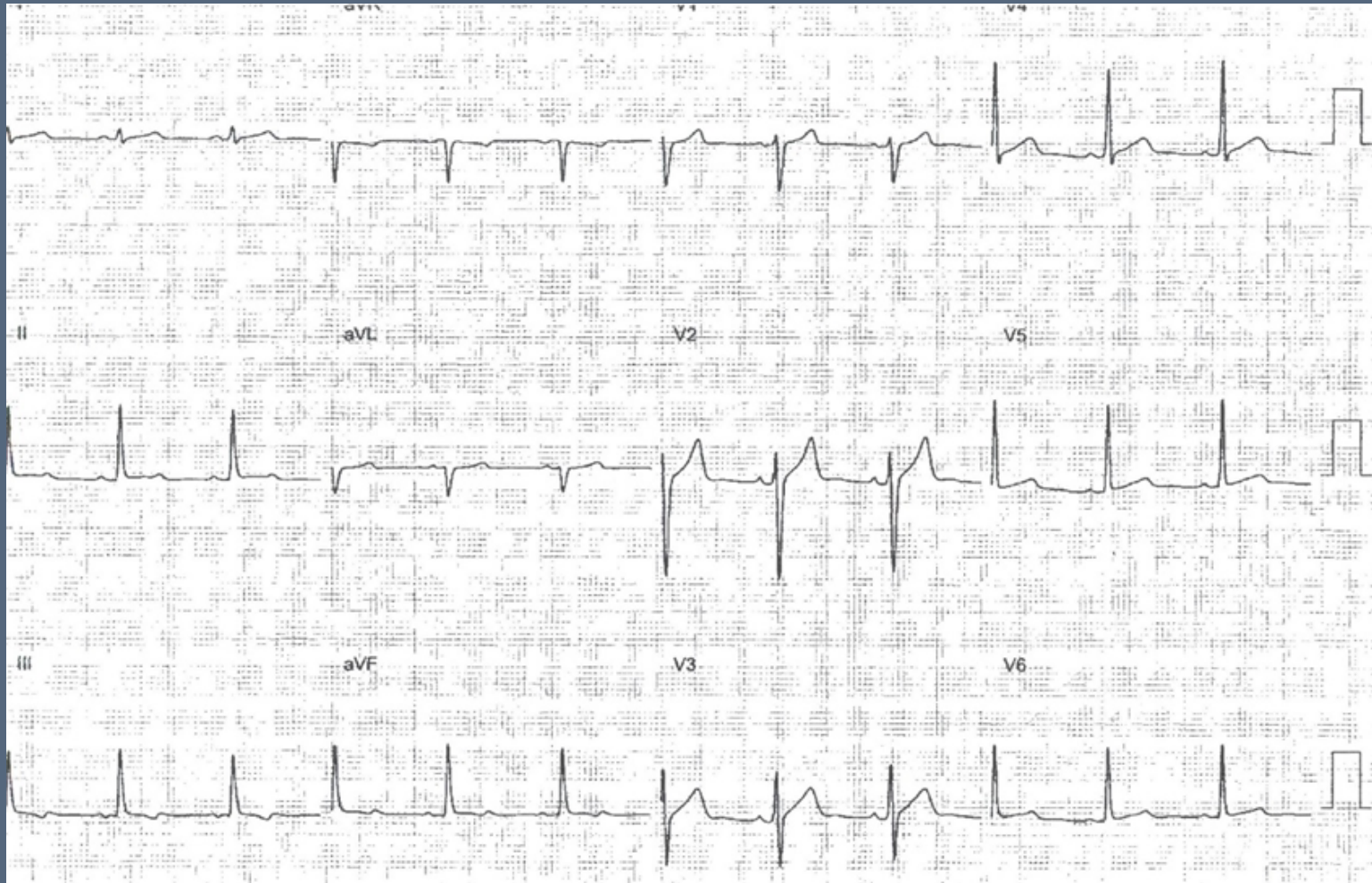
An unusual wide-complex tachycardia

John Papagiannis, MD
Children's Mercy Hospital
Kansas City, MO

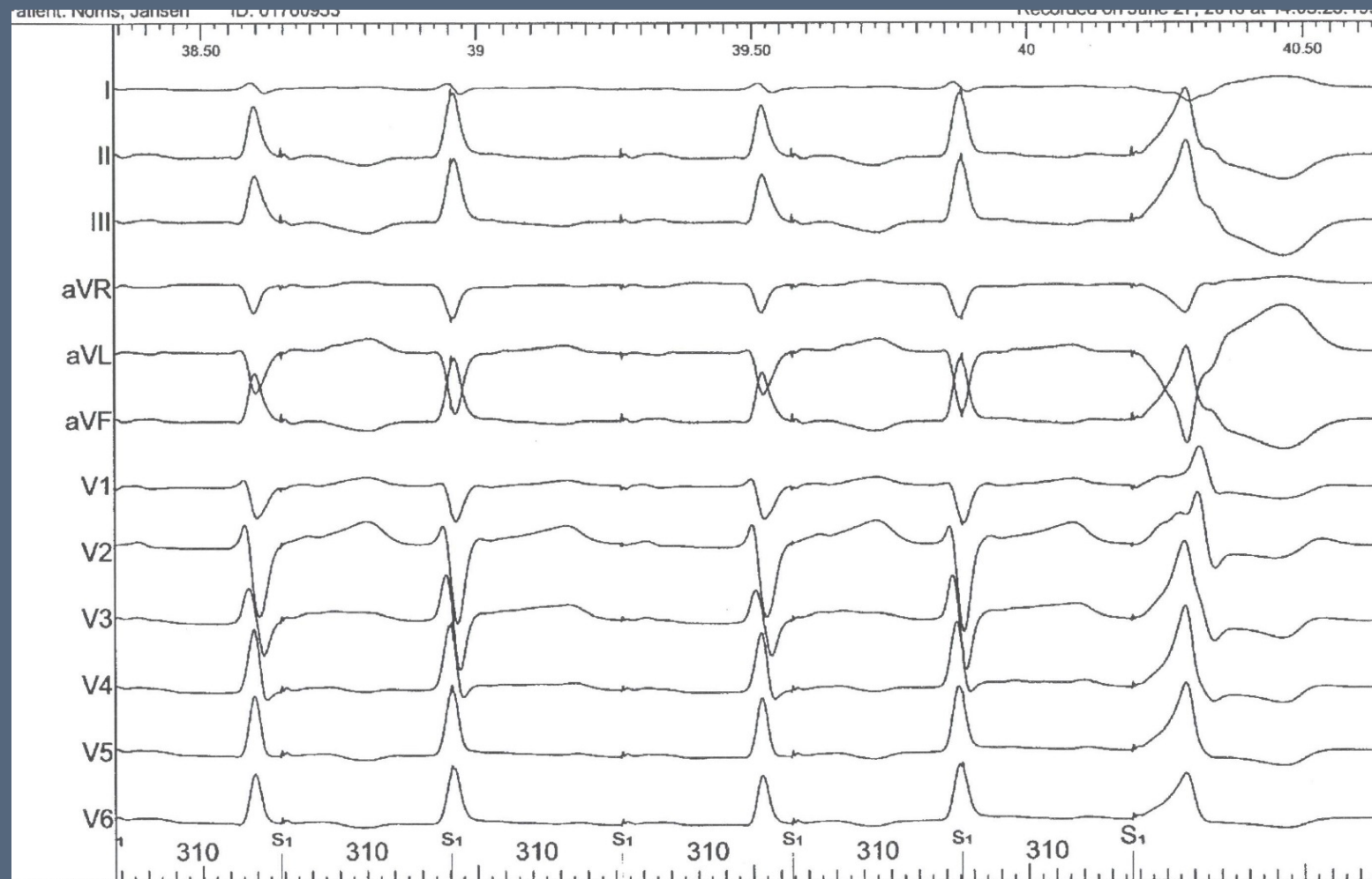
History

- 12 year old male with new onset of palpitations at rest
- ECG obtained at local ED: no evidence of pre-excitation
- ECG during tachycardia: regular wide complex tachycardia (190 bpm)
- Adenosine was given with successful conversion to NSR
- EP study scheduled

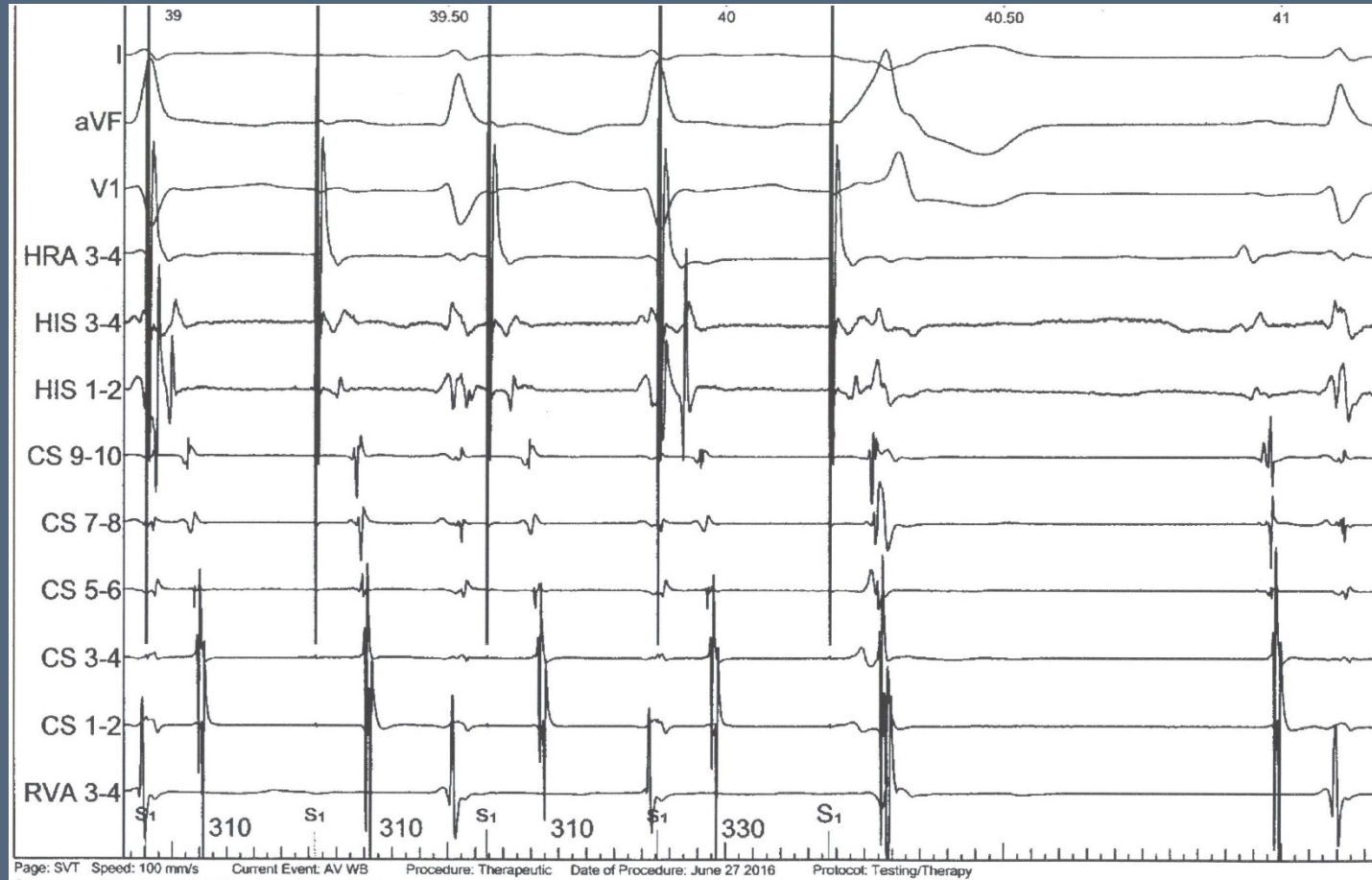
Sinus rhythm ECG



Decremental atrial pacing



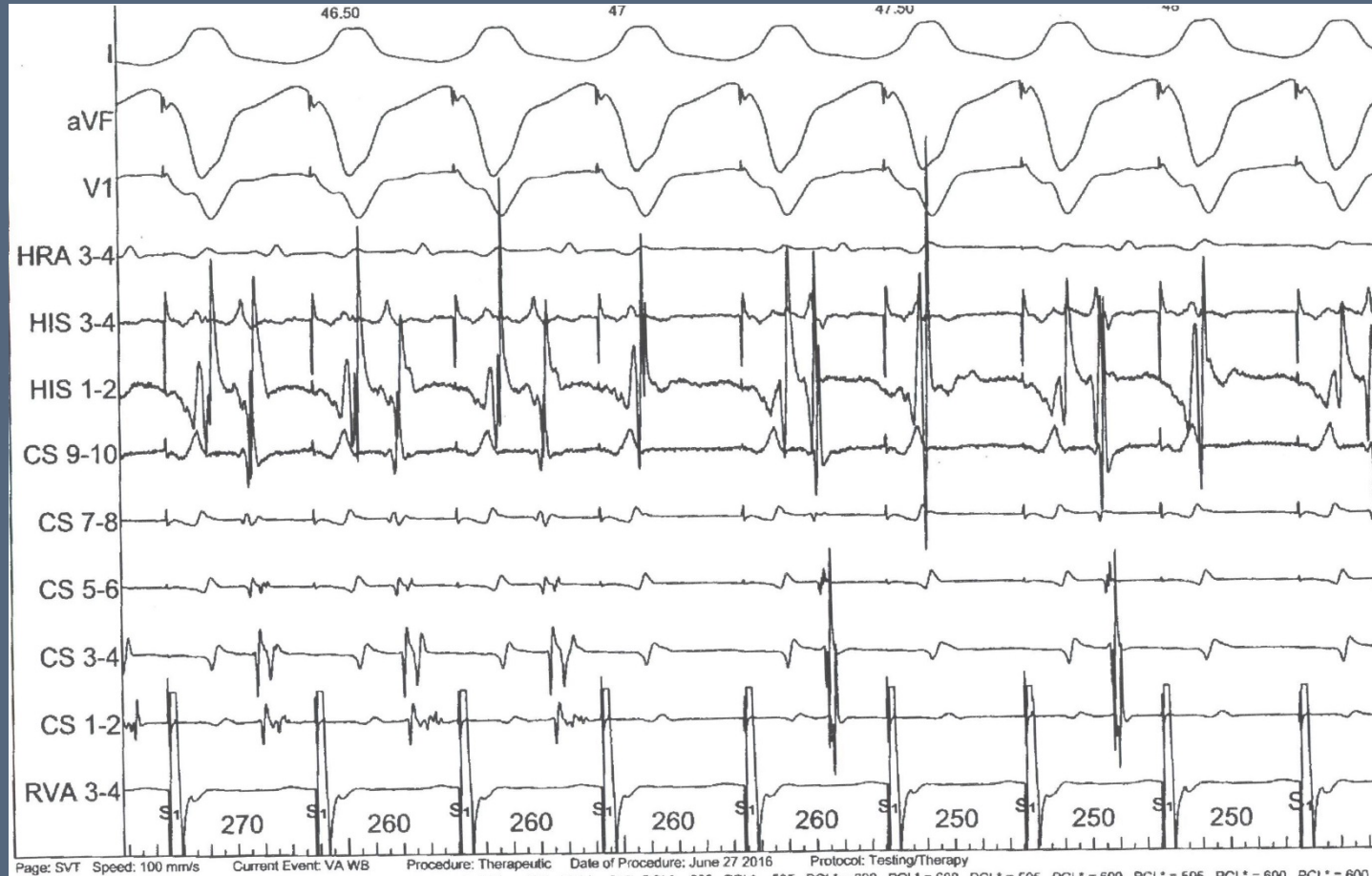
Decremental atrial pacing



Atrial extrastimulus testing: AV nodal ECHO



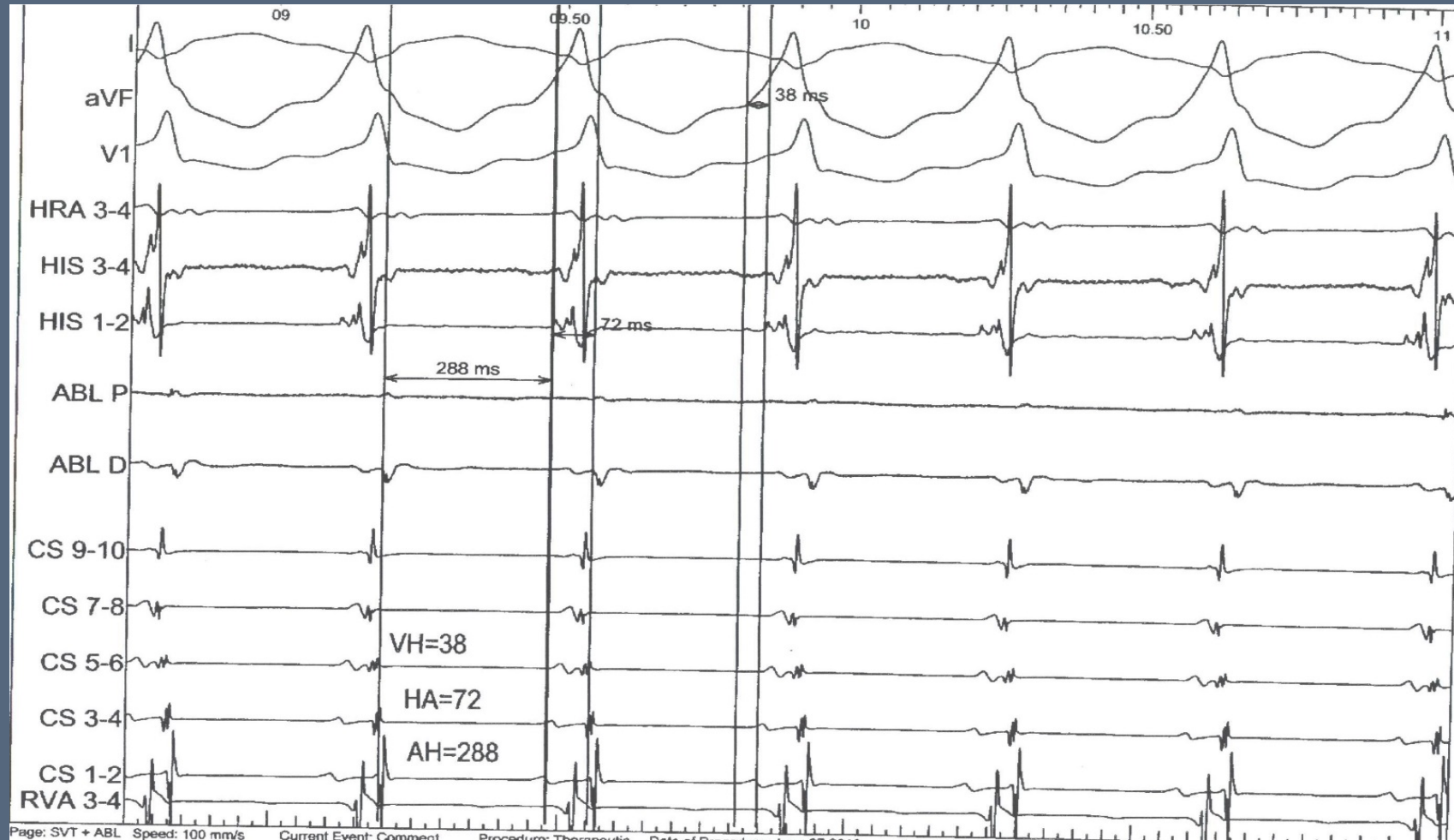
Ventricular decremental pacing



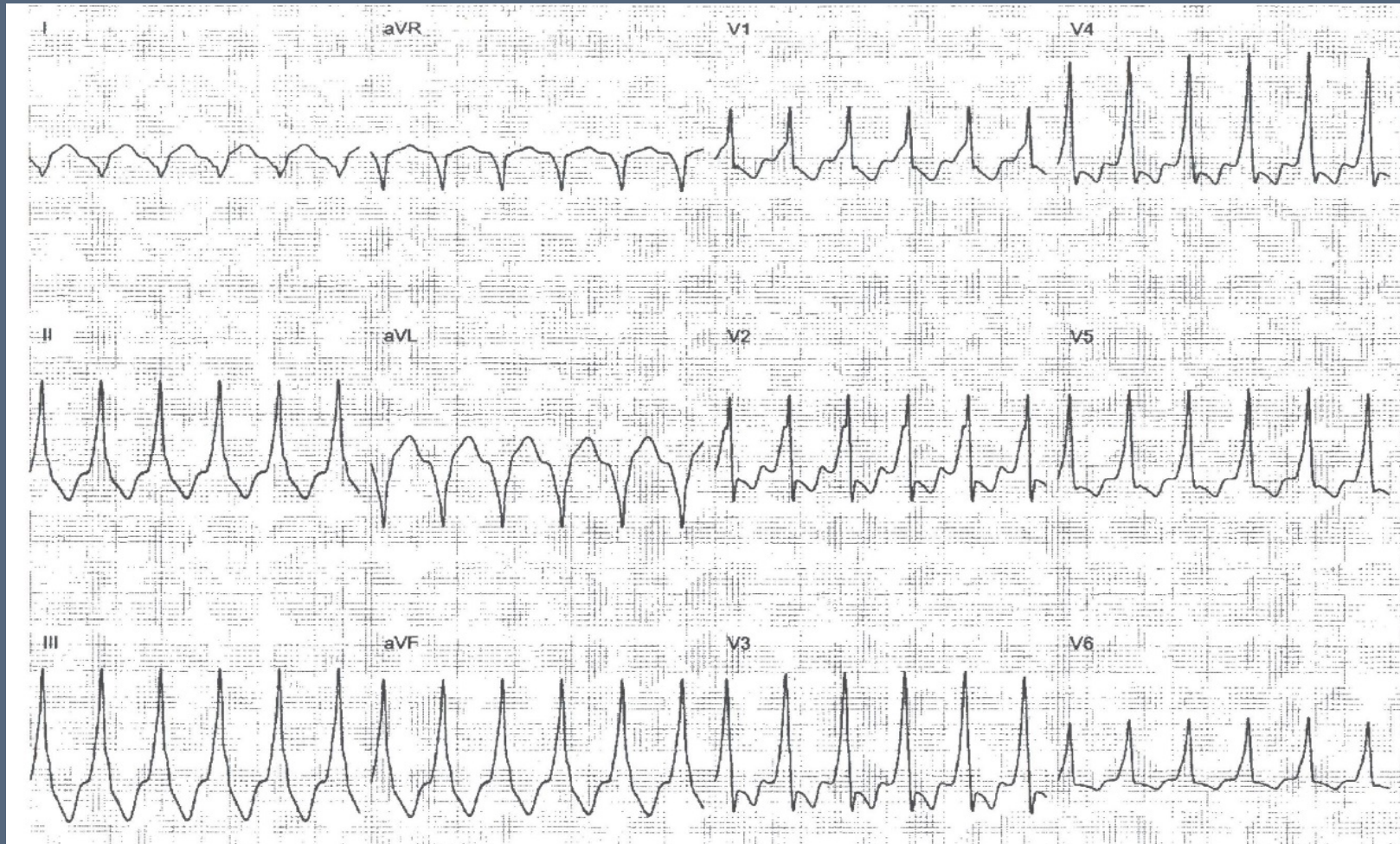
Ventricular extrastimulus testing: Tachycardia onset



Wide complex tachycardia



Wide complex tachycardia



PAC during tachycardia, terminates without conducting into V (conceals in AVN)



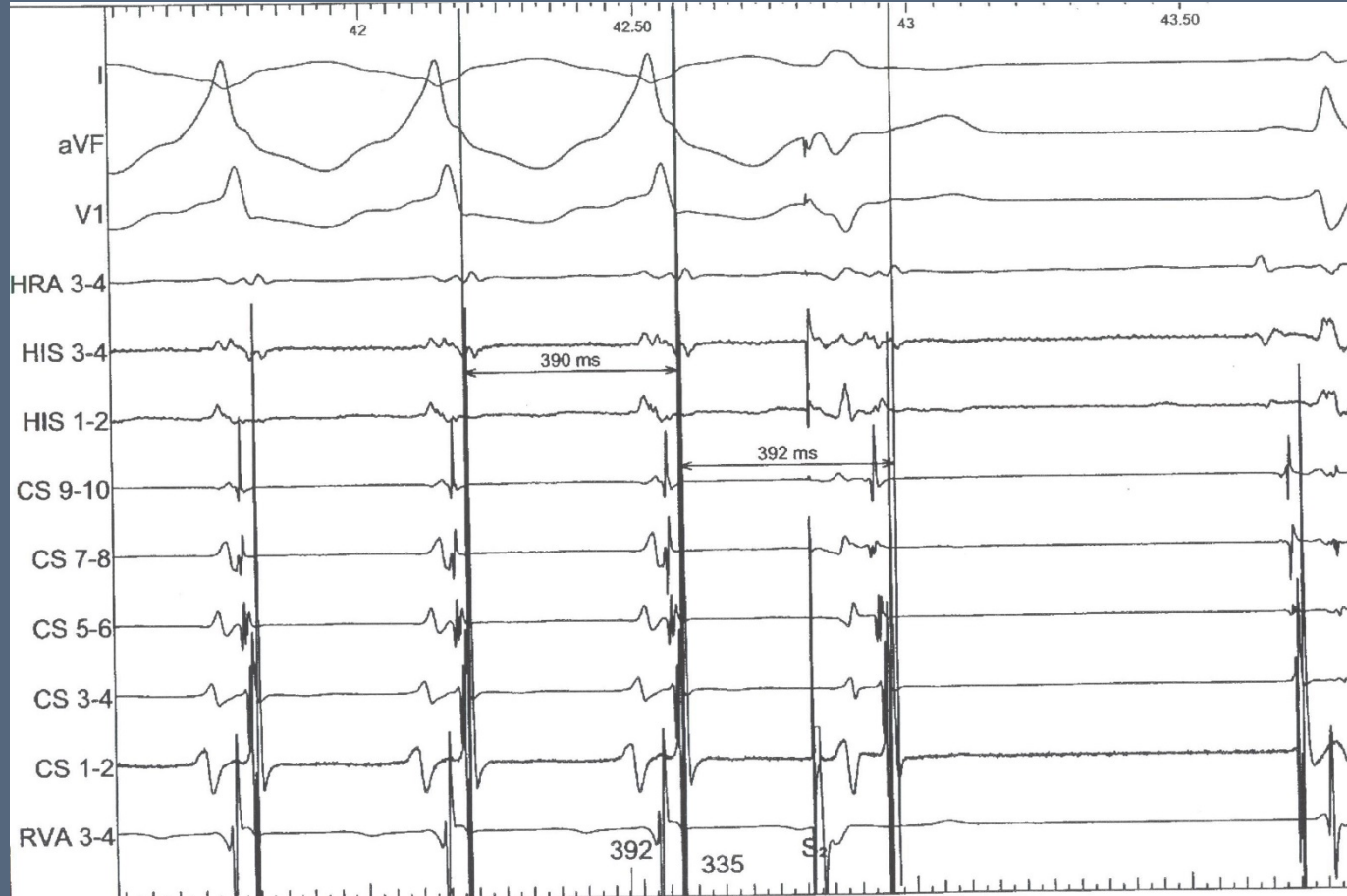
PAC terminates tachycardia without conducting to the ventricle



PVC during tachycardia does not affect atrial rate



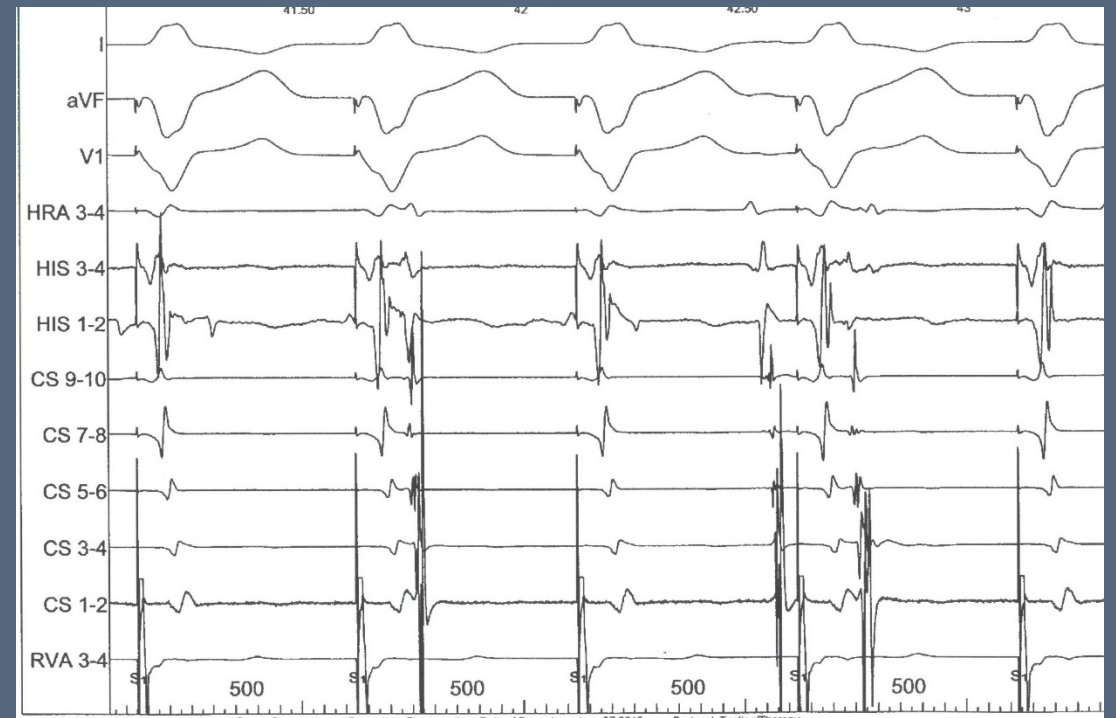
Earlier PVC terminates tachycardia without conducting into the atrium



Entrainment after several beats



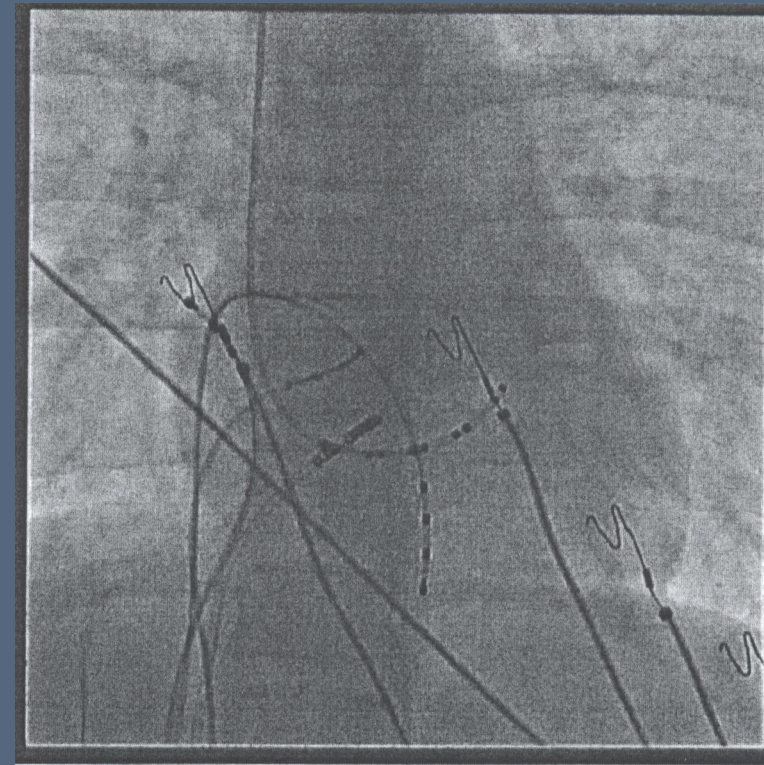
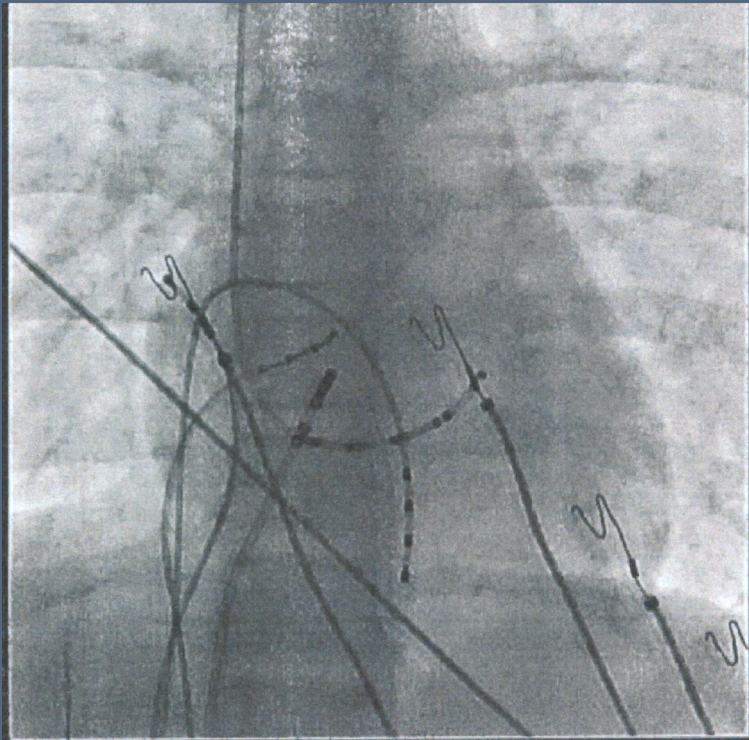
Adenosine causes AV and VA block with no evidence of accessory pathway



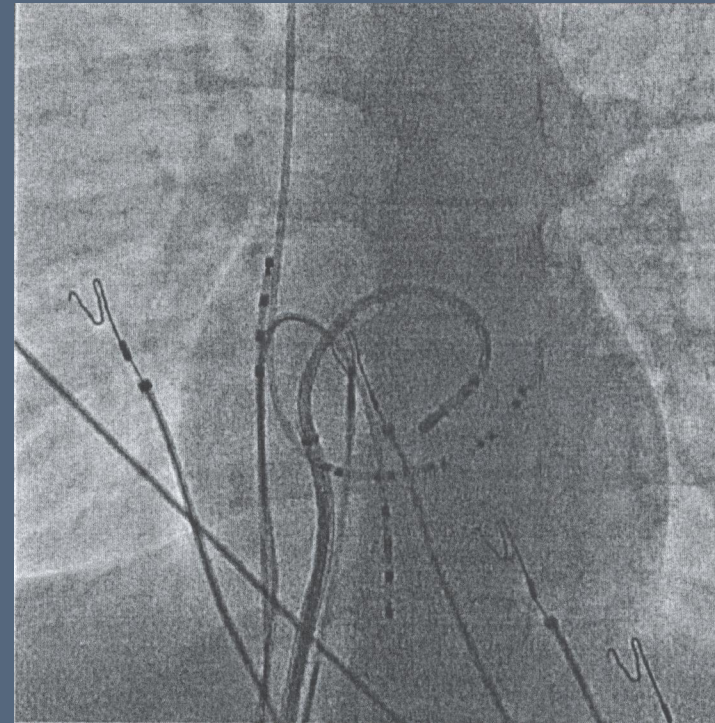
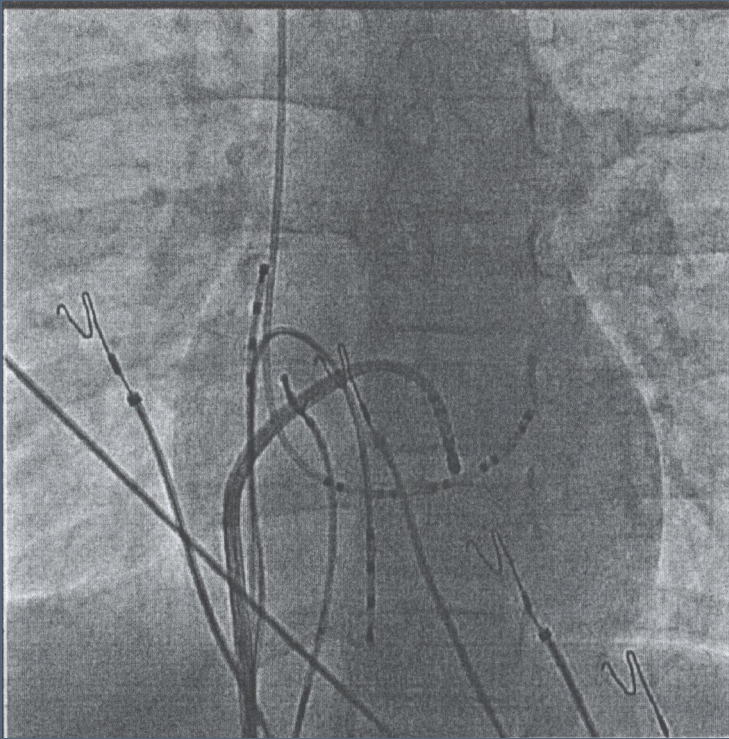
Adenosine terminates tachycardia with antegrade block



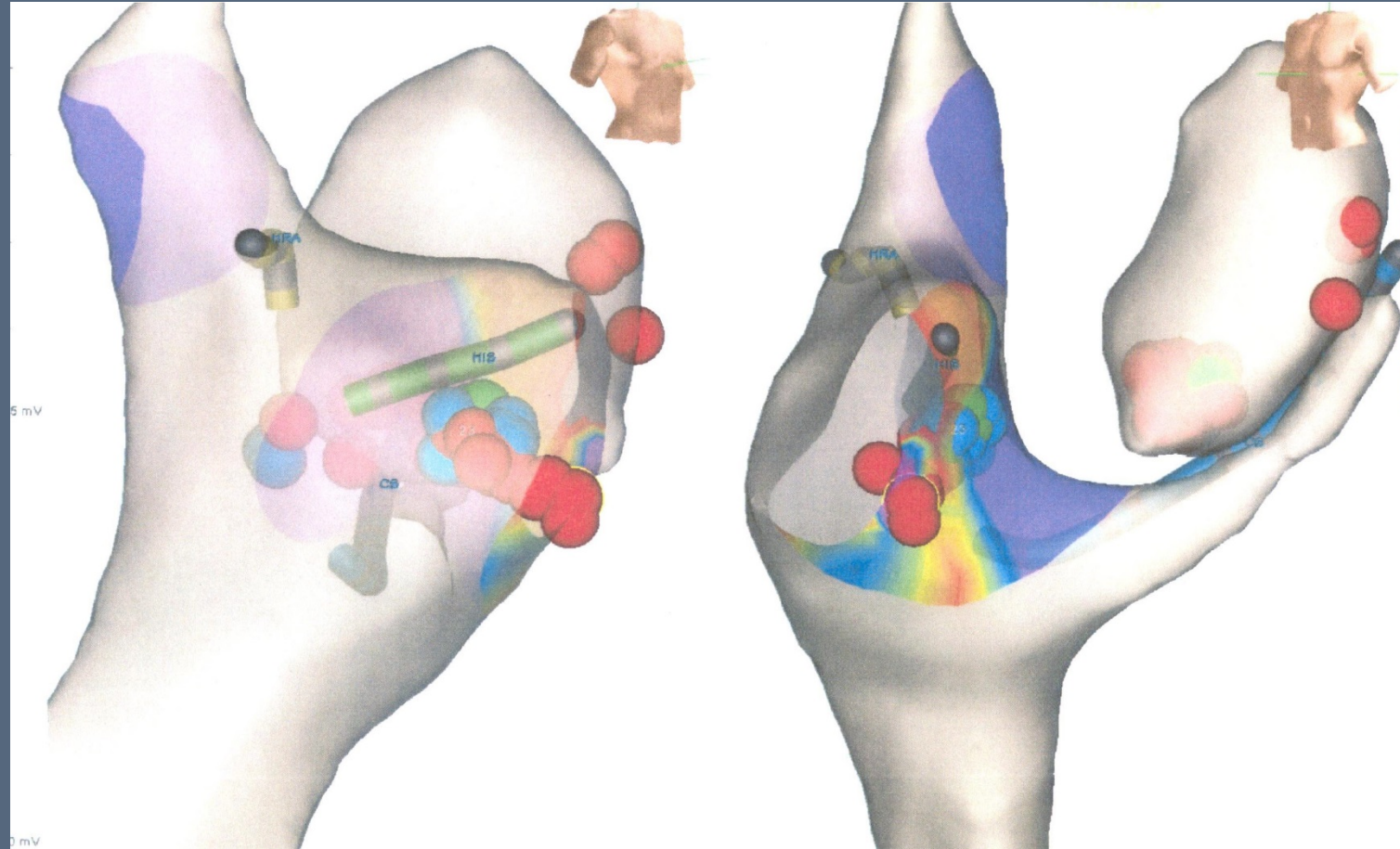
Right-sided sites of ablation (unsuccessful)



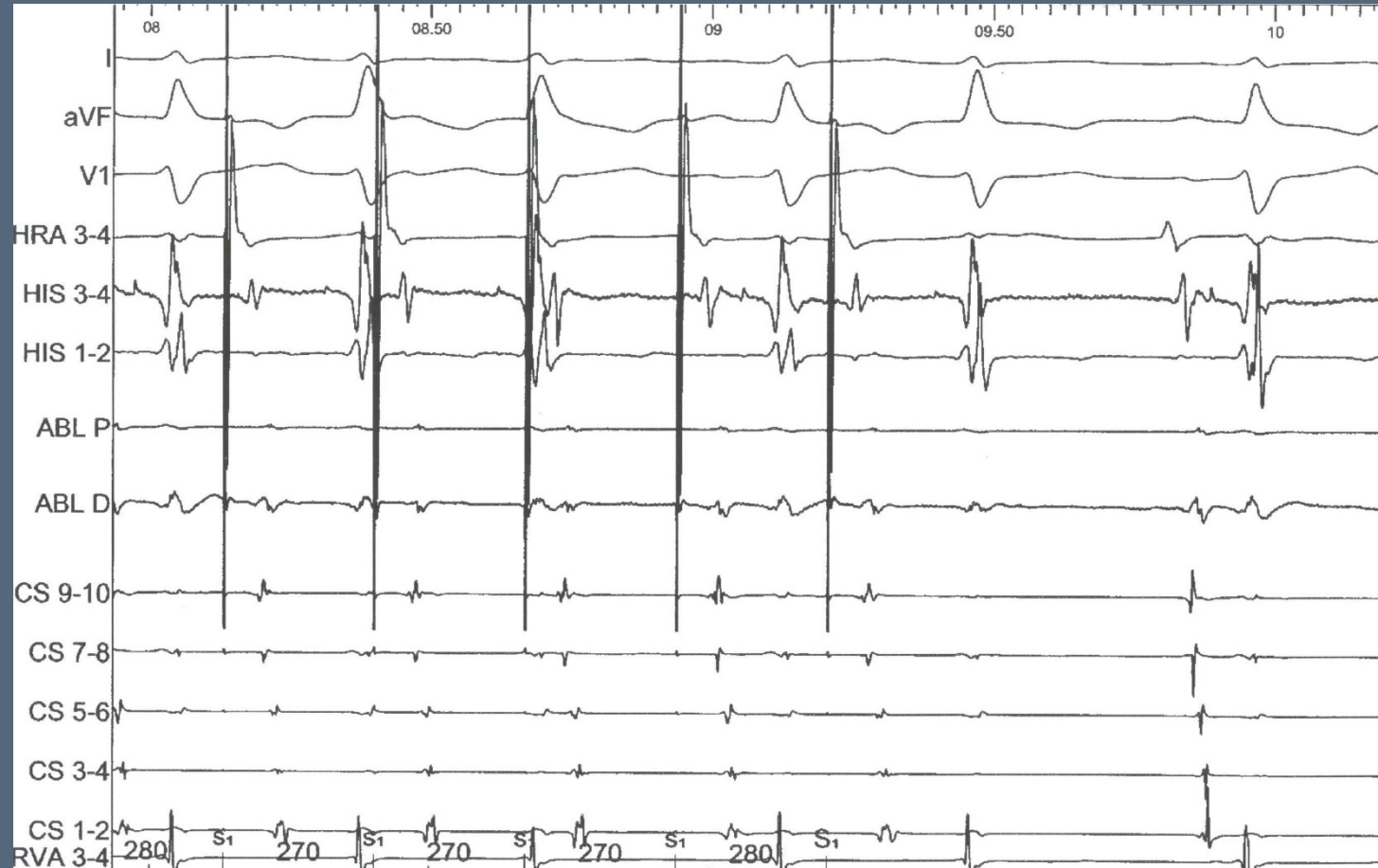
Left-sided sites of ablation (successful)



Sites of ablation by 3D mapping



Post-ablation decremental atrial pacing



Only 2 beats of tachycardia inducible after ablation



No inducible tachycardia after left-sided ablation



Summary

- Wide complex tachycardia with RBBB morphology
- AV node-dependent
- Adenosine-sensitive
- Bystander, antegrade-only conducting accessory pathway, adenosine sensitive and with decremental properties
- Successful ablation of both accessory pathway and AVNRT with lesions in left posteroseptal area (only 2 beats inducible)
- Diagnosis: Left-sided nodo-fascicular accessory pathway