#### **AVNRT** with VA dissociation

#### and other unusual variants



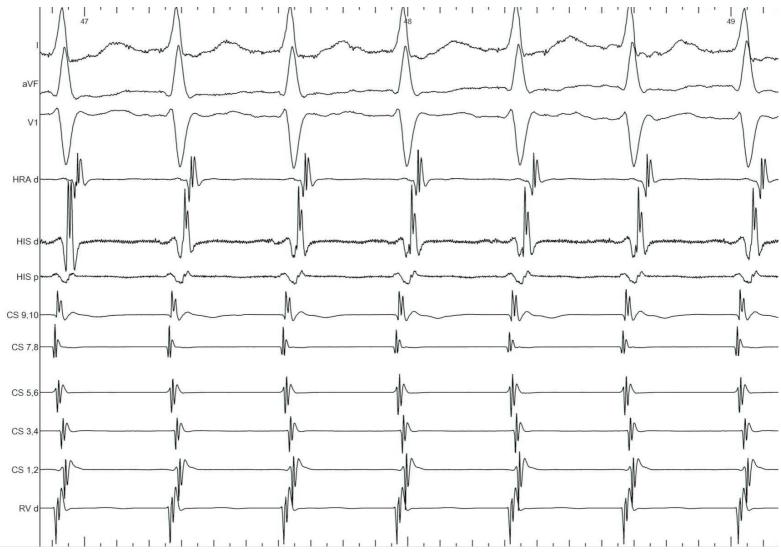
Raja Selvaraj

**Professor of Cardiology** 

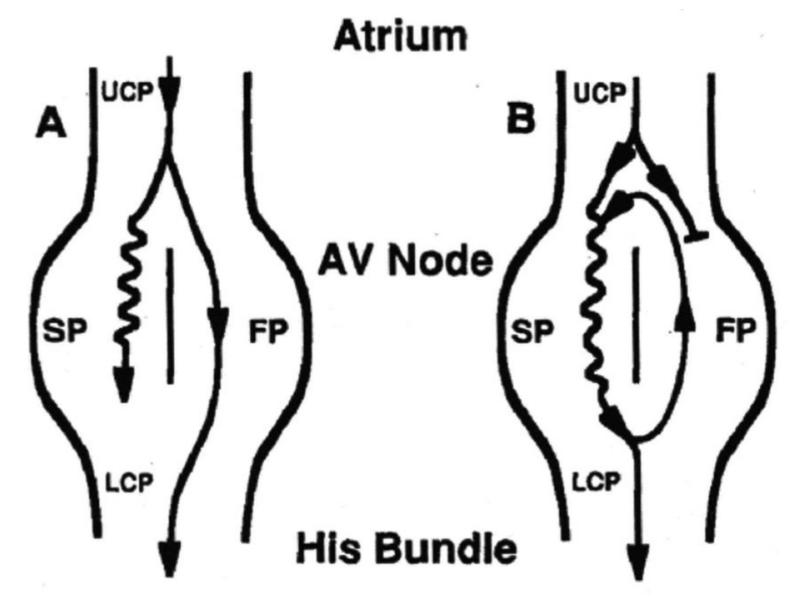
Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India













- J. Cardiovasc Electrophysiol 1993:4;573

#### AVNRT with VA dissociation

- •A > V
- $\cdot V > A$
- Insights on AVNRT circuit
- Differential diagnosis and challenges

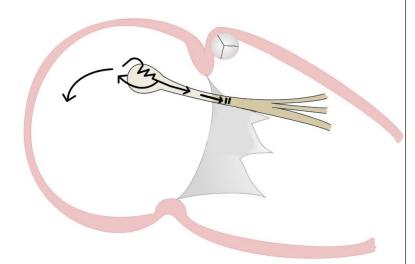




#### **AVNRT** with A > V













RV1,2

00.50

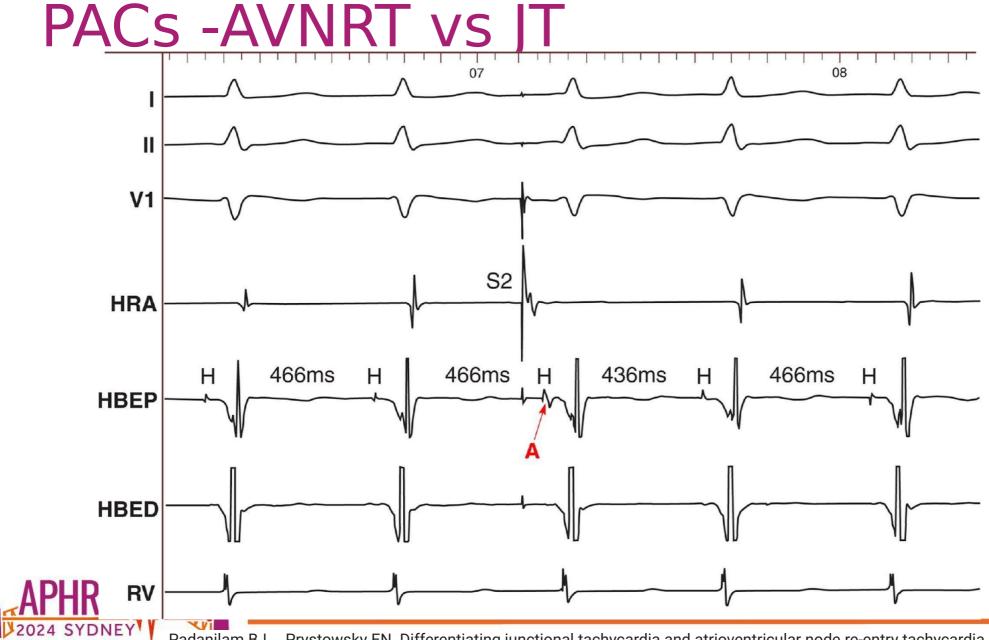


## Differential diagnoses

- AVNRT with "lower common pathway" block
- Atrial tachycardia
- Junctional tachycardia







Padanilam BJ ... Prystowsky EN. Differentiating junctional tachycardia and atrioventricular node re-entry tachycardia based on response to atrial extrastimulus pacing. J Am Coll Cardiol. 2008 Nov 18;52(21):1711-7.

#### **AVNRT vs AT**

- VA linking
- Simultaneous AV pacing
- Response to PVCs











### Converting to 1:1





## AVNRT with 2:1 AV block - always in HPS?

- Retrospective study of 140 patients
- Seen in about 10% of patients with AVNRT
- About half have no His in blocked beats
- No response to atropine
- Converts to 1:1 with PVCs
- All cases represent functional infranodal block?

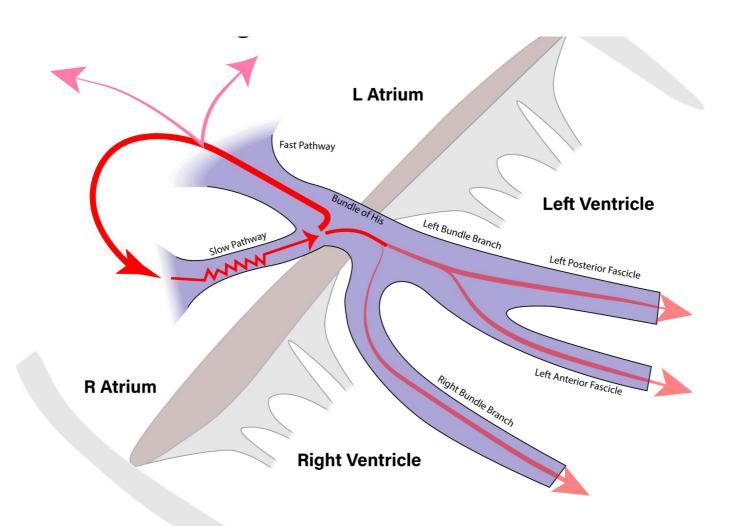




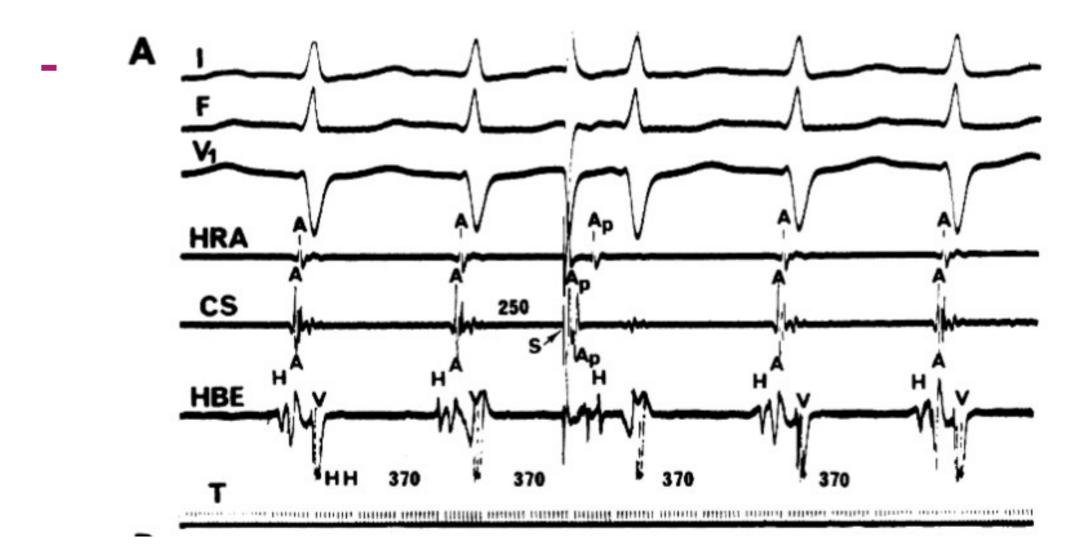
#### **AVNRT** with V > A







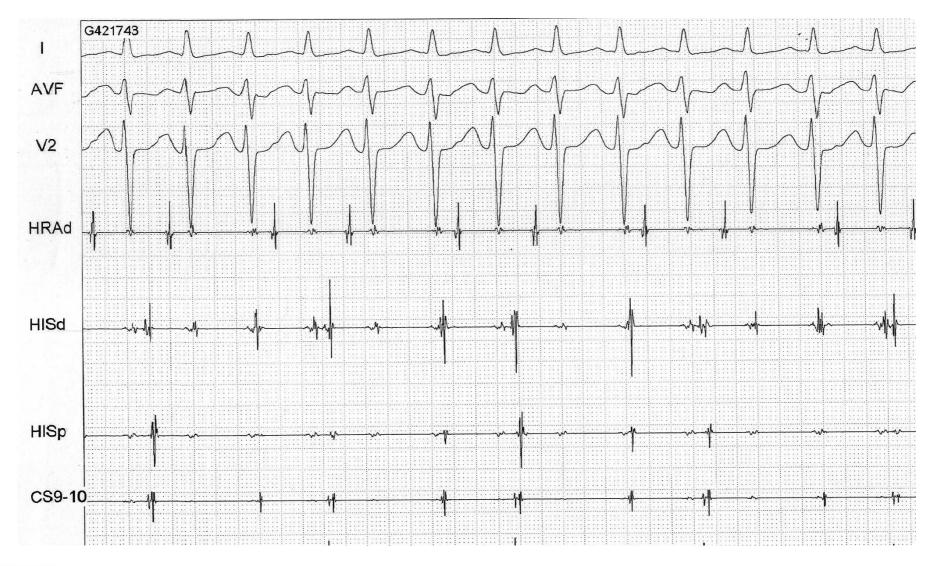






Josephson ME, Kastor JA. Paroxysmal supraventricular tachycardia: is the atrium a necessary link? Circulation. 1976 Sep;54(3):430-5. doi: 10.1161/01.cir.54.3.430.









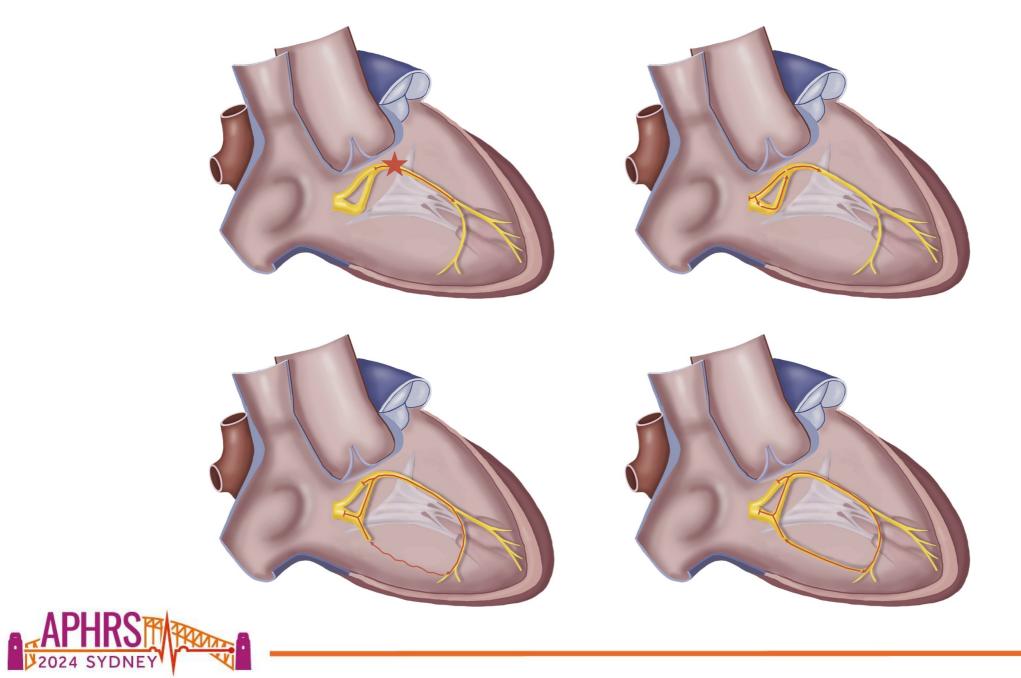
## Differential diagnoses

AVNRT with "upper common pathway" block

- ORT using concealed nodoventricular /nodofascicular pathway
- Junctional tachycardia







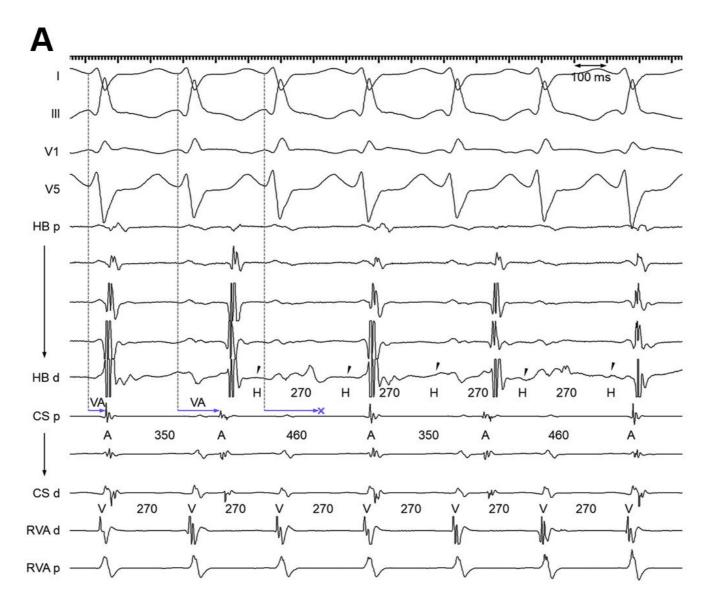
#### Identifying concealed NV/ NF pathway (25 pts)

- ORT with NV / NF pathway (36% of all SVT with VA block)
  - Advancement or delay of His with His refractory PVC
  - VAV response with PPI-TCL < 115 ms or SA-VA < 85 on VOP</li>
  - Orthodromic His capture during VOP
- NV pathway
  - Entrainment with fusion from RV

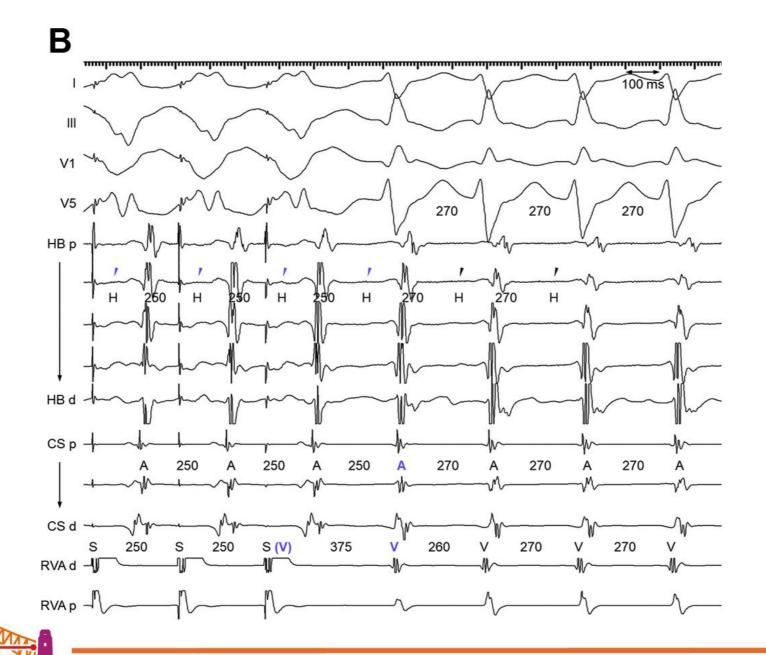
- AVNRT
  - If none of these criteria met
  - Multiple SVTs with different VA interval
  - VA wenckebach uncommon
  - HH prolongation with VA block



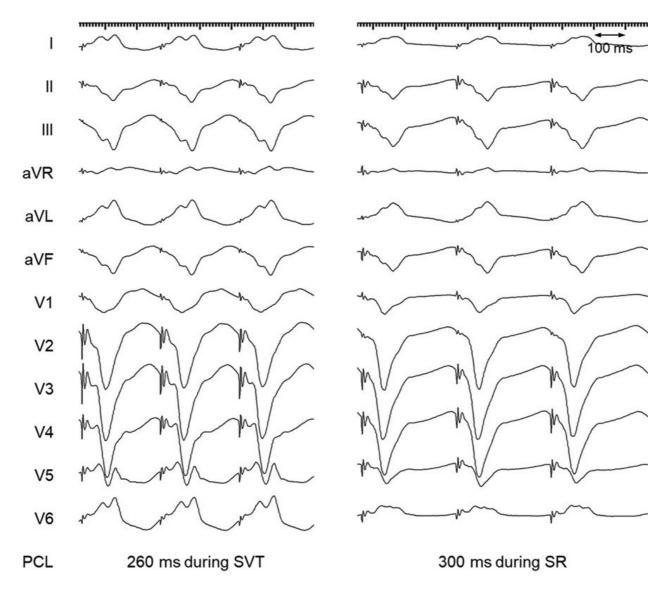
Nagashima K et al. Novel Diagnostic Observations of Nodoventricular/Nodofascicular Pathway-Related Orthodromic Reciprocating Tachycardia Differentiating From Atrioventricular Nodal Re-Entrant Tachycardia. JACC Clin Electrophysiol. 2020 Dec;6(14):1797-1807.





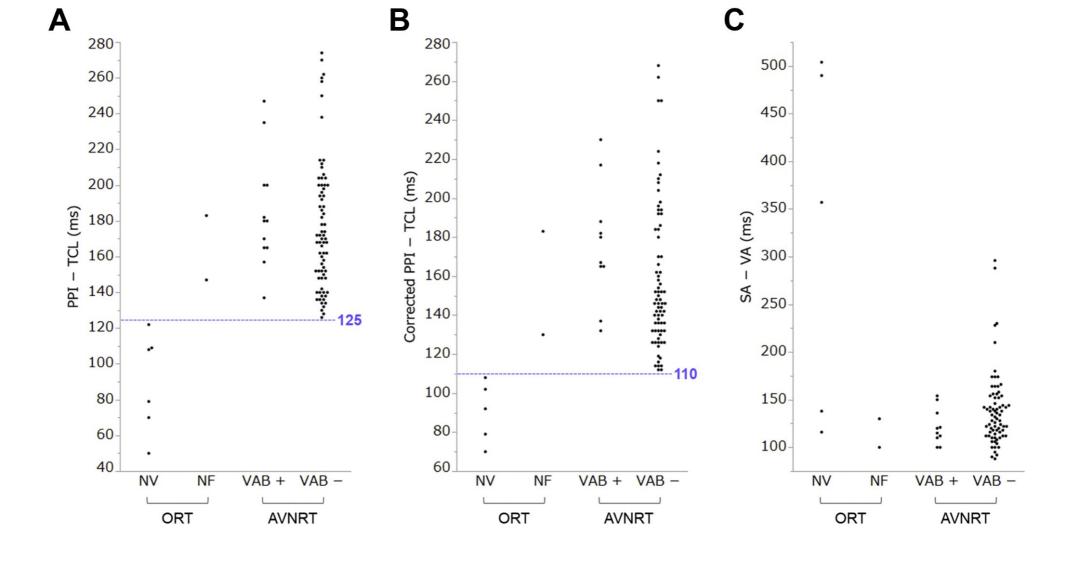














# AVNRT with VA dissociation - Summary

- •A > V 10 %
- Usually not persistent
- Does not typically pose difficulties in diagnosis
- •V > A 4 to 5%
- Can be persistent
- Nodoventricular / nodofascicular ORT to be considered
- May be under recognised



