Unknown EP Tracing

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Case

- 12-year-old male
- C.C : known paroxysmal tachycardia since 5 year of age
- No other past history
- No structural heart disease (TTE : LVEF 62%)
12 Lead EKG (2008.9.23)
12 Lead EKG (2008.9.26)

HR = 152 BPM
12 Lead EKG (2013.11.14)

HR = 60 BPM

Referred by: PAK H N
Confirmed By: LEE MOON HYOUNG
12 Lead EKG (2014.1.23)

HR = 64 BPM
EP Study
Delta wave (+)
CL=837ms, AH=74ms, HV=22ms, QRS=174ms
RVP 600ms
his fast
RVP 460ms
VABCL 420ms
SVREST
– VA decremental property (+)
AVBCL - 460ms
SAEST – AH Decremental property (+)
SAEST
– AH Decremental property(+) AVN ERP - 600/380ms
SVESI with isoproterenol (3ug/min)  
- VA decremental property (+)  
- VA jump (+)
SAEST with isoproterenol (3ug/min) - VACS ERP 500/240
SAEST with isoproterenol (3ug/min)
- AH decremental property (+)
AH jump with single echo

600/370
600/360
600/350
SAEST with isoproterenol (3ug/min) - AVN ERP 600/340
RAP 400 with isoproterenol - AVBCL
4 different QRS morphology during RAP 400 with isoproterenol
Parahisian pacing

\[ (St-A)_{\text{myocardium}} - (St-A)_{\text{His}} = 42\text{ms} \ (>35\text{ms}) \]
Catheter re-positioning and mapping

LAO 35

RAO 35
Tachycardia induction with APC
TCL = 375ms
V-reset (+)
Termination
Summary

- Delta wave seen during SR
- Earliest V activation at His area
- Earliest A activation at His area
- VA decremental property with same A activation
- AH decremental property with various QRS morphology
- VA jump and AH jump with single echo during pharmacologic stimulation
- No delta augmentation during RAP, prolonged HV interval
  - not consistent with fasciculoventricular bypass tract
- Parahisian pacing \((St-A)_{\text{myocardium}} - (St-A)_{\text{His}} = 42\text{ms} (>35\text{ms})\)
  - not consistent with VA conduction via accessory pathway
- V-reset (+) during induced tachycardia
Summary

• Favoring AT
  – Frequent APC in baseline EKG & tachycardia induction
  – VA decremental property: no VA conduction via AP?
  – Parahisian pacing: \((\text{St-A})_{\text{myocardium}} - (\text{St-A})_{\text{His}} = 42\text{ms} (>35\text{ms})\)
    - not consistent with VA conduction via accessory pathway

• Favoring AVRT
  – Narrow QRS during tachycardia (orthodromic AVRT?)
  – V-reset (+) during induced tachycardia

• Interesting finding
  – Various QRS morphology
  – Decremental property in AP antegrade conduction?
RF ablation #1
RF ablation #2
-delta disappeared within 2 sec
Recurred tachycardia during RF ablation #2
Transiently augmented delta wave after RF#5
After RF#10, Junctional rhythm (incomplete RBBB -> complete RBBB)
Catheter re-positioning and mapping

LAO 35

RAO 35
Tachycardia induction (RBBB)
V-reset (+)
Aortogram

LAO 35

RAO 35
RF ablation at NCC

LAO 35

RAO 35
RF#14 at NCC – tachycardia termination
After Final RF ablation
After adenosine injection
After Final RF ablation
RVP 500 - VAD
12 Lead EKG (after RFA)

HR = 69 BPM

Referrer by: Newly Acquired

I aVR

II aVL

III aVF

V1 V2 V3 V4 V5 V6