

My toughest case in the EP lab

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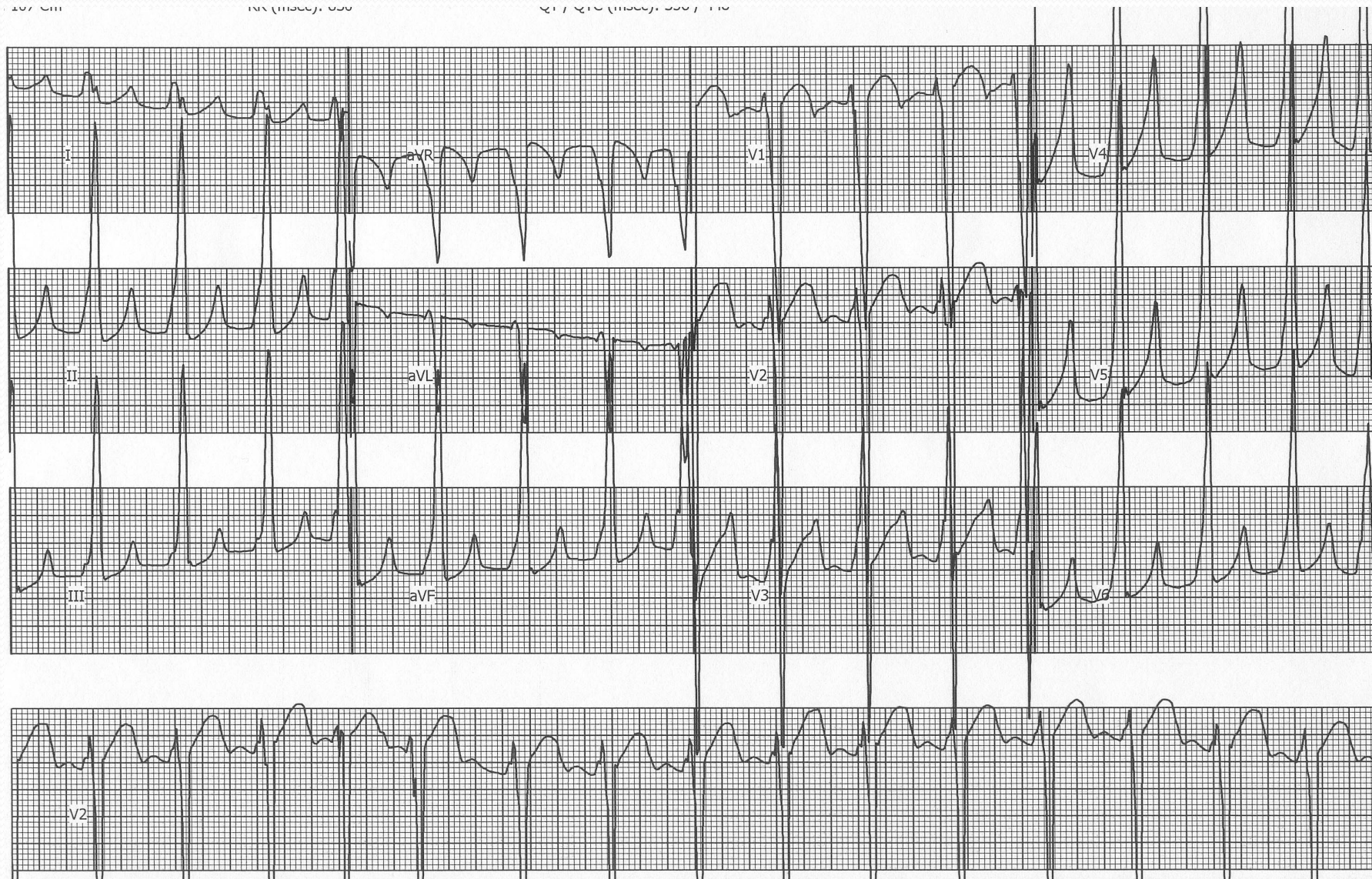
GL

- Cute 4 yr old girl
- Resuscitated VF arrest outside hospital
- WPW on ECG
- Tried flecainide: wide QRS rhythm; stopped.
- Referred for ablation

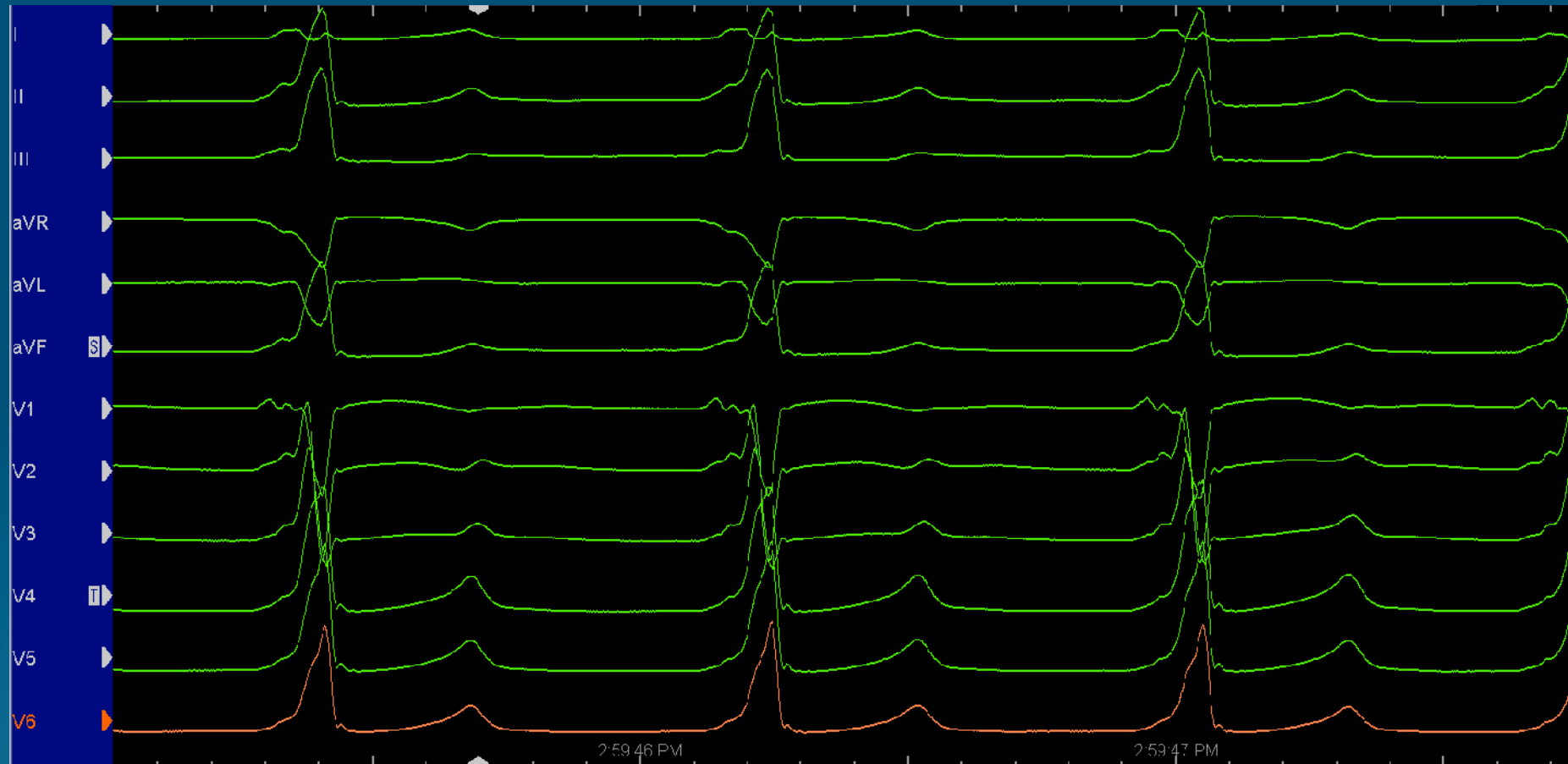
107 cm

100 (ms), 500

21 / 210 (ms), 500 / 110

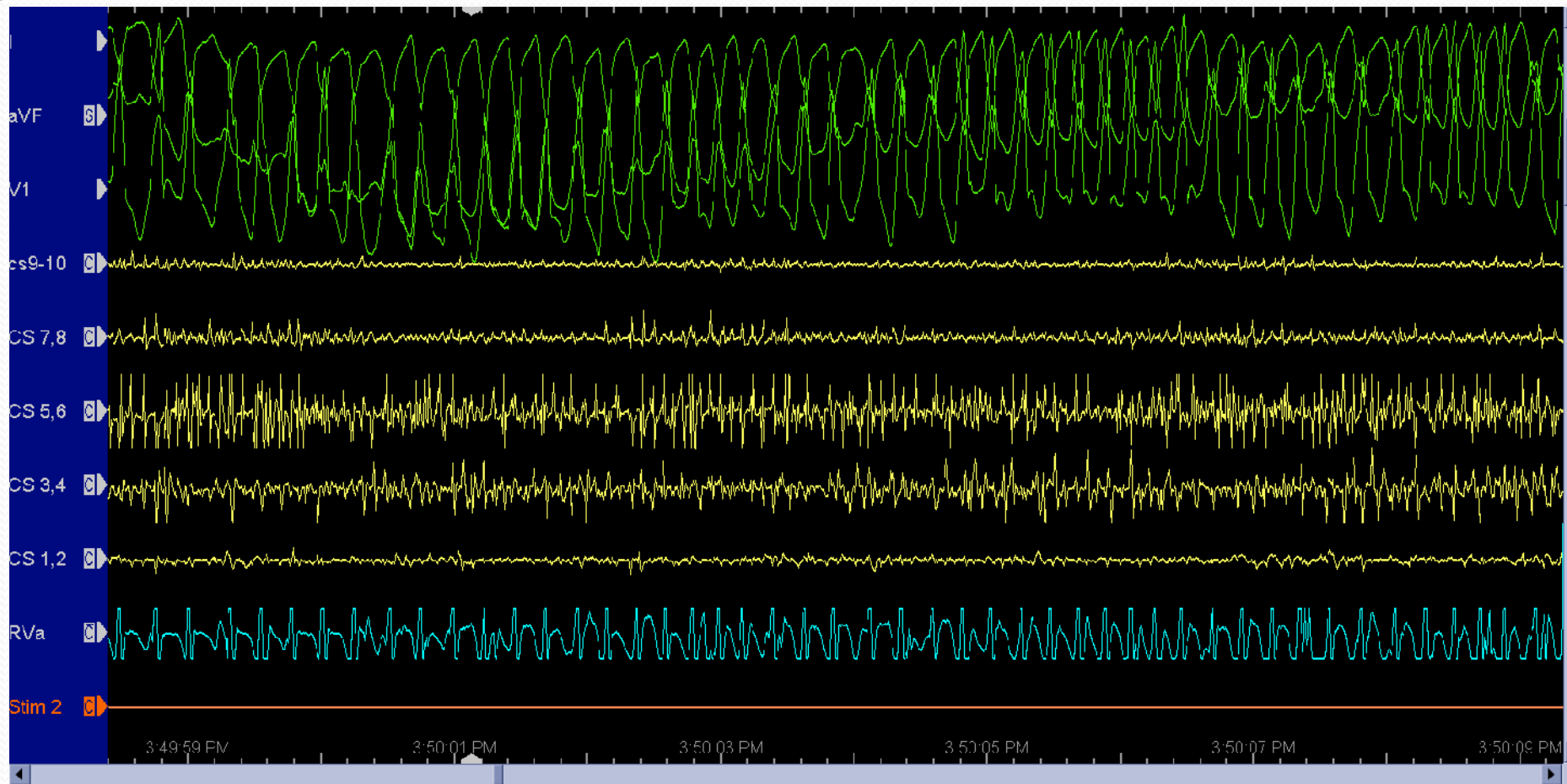


Baseline in lab



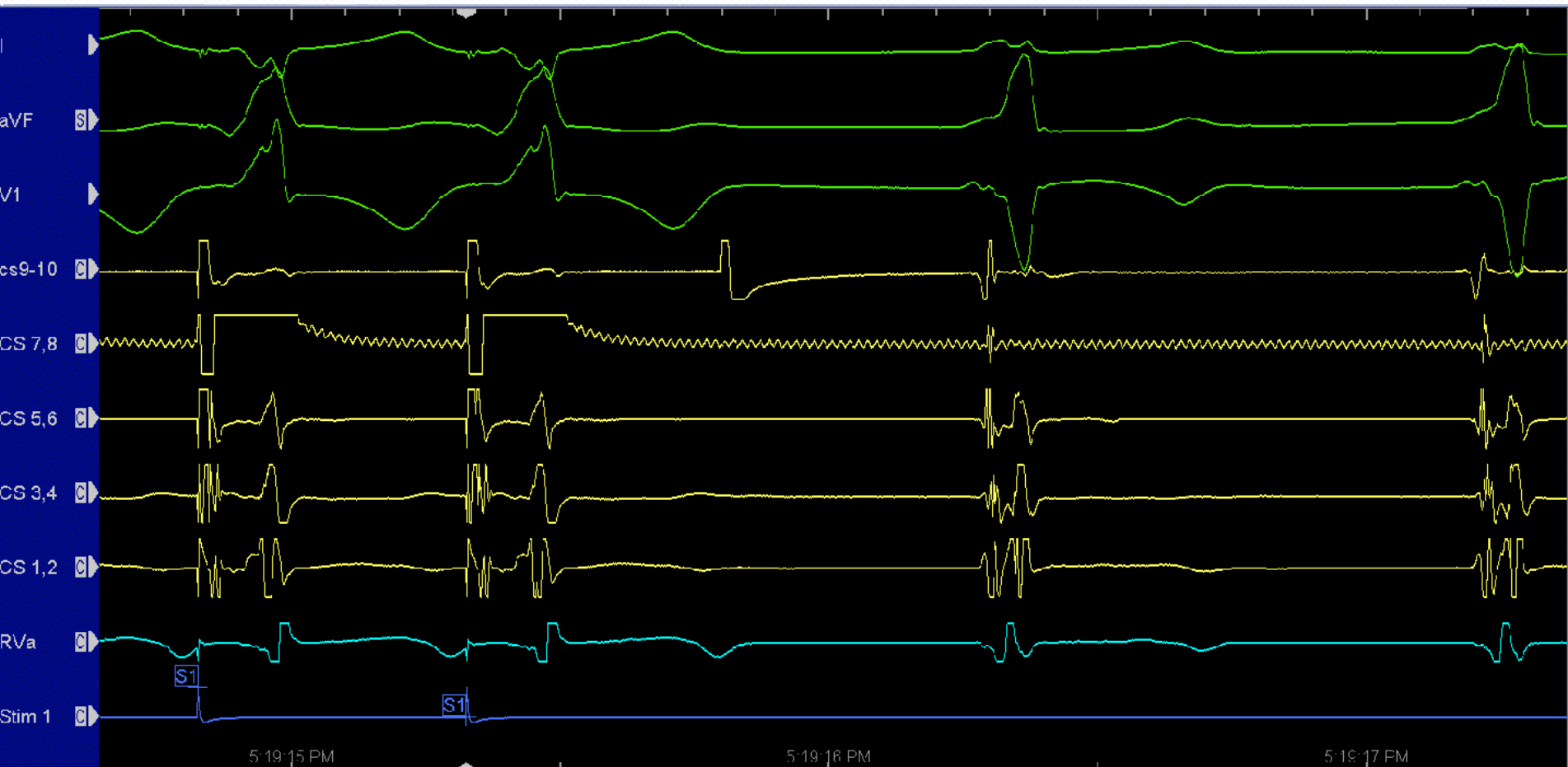


Attempting to place a CS catheter





Atrial pacing: note change in V1 compared to baseline



? Multiple pathways: right and left?

GL: EP findings

- Catheter placement: AF>VF>DC shock X 3 before conversion.
- Happened 2 more times.
- IV ibutilide: calmer heart.
- Mapped right side and via trans-septal, mapped left side.
- Possible right anterior + definite Left anterior pathway
- Left was the malignant pathway
- Unsuccessful ablation via trans-septal
- 2nd attempt 5 days later on sotalol PO
- Re-entered LA via old TS
- Attempted retrograde & antegrade approach: failed

GL

- Multiple APS, one left (definite) and one right (possible)
- Left sided is the malignant pathway.
- Likely broad vs epicardial vs direct LAA to LV connection
- Referred to Drs Triedman & Mayer BCH
- Repeat catheter ablation at BCH: failed.
- Surgical ablation: dissection of both AV grooves on bypass
- Delta wave lost then recurred coming off bypass
- Left side dissection repeated with success.

Epicardial left atrial appendage and biatrial appendage accessory pathways

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BACKGROUND Acute success rates of accessory pathway ablation for Wolff-Parkinson-White (WPW) syndrome can exceed 95%, with rare failures attributed to anatomically complex epicardial connections. Right atrial appendage to right ventricle pathways have been reported, but their left-sided counterparts have only recently been described.

OBJECTIVE The purpose of this study was to report three unique cases of WPW syndrome in children with left atrial appendage and biatrial appendage connections.

RESULTS Three young patients with high-risk accessory pathways (accessory pathway effective refractory period = 190–240 ms) had unsuccessful endocardial ablations despite aggressive efforts with various catheter techniques. One patient had a left atrial appendage to left ventricular connection; the other two had biatrial appendage pathways connected to their respective ventricular surfaces. The latter two patients had a history of ventricular fibrillation: one experiencing ventricular fibrillation in the electrophysiology laboratory and the other suffering from ventricular fibrillation arrest at home. All three patients were taken to the

operating room, where the appendages were noted to be diffusely adherent to their ventricles by fibrofatty connections. Dissection of the appendages led to loss of preexcitation and no further tachycardia.

CONCLUSION Surgical management of atrial appendage accessory pathways should be considered if aggressive attempts at endocardial ablation have failed.

KEYWORDS Accessory pathway; Arrhythmia surgery; Atrial appendage; Catheter ablation; Pediatrics; Wolff-Parkinson-White syndrome

ABBREVIATIONS AP = accessory pathway; ERP = effective refractory period; LAA = left atrial appendage; LV = left ventricle; ORT = orthodromic reciprocating tachycardia; RAA = right atrial appendage; RF = radiofrequency; RV = right ventricle; VF = ventricular fibrillation; WPW = Wolff-Parkinson-White

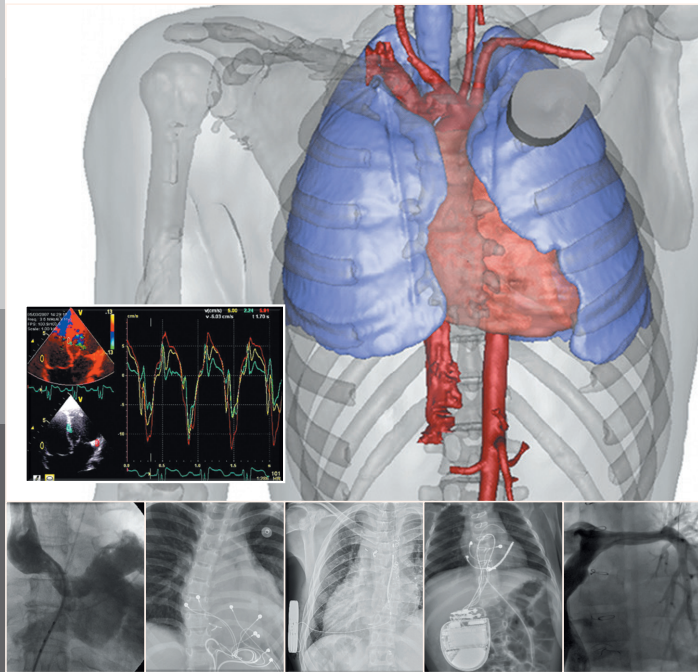
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Lessons

- There are limits to catheter ablation.
- Ask for help: another EP, anesthesia, interventional cath, other center.
- Ibutilide can be a mixed blessing. However, if patient safety is involved, do not hesitate to use.

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Thank You

