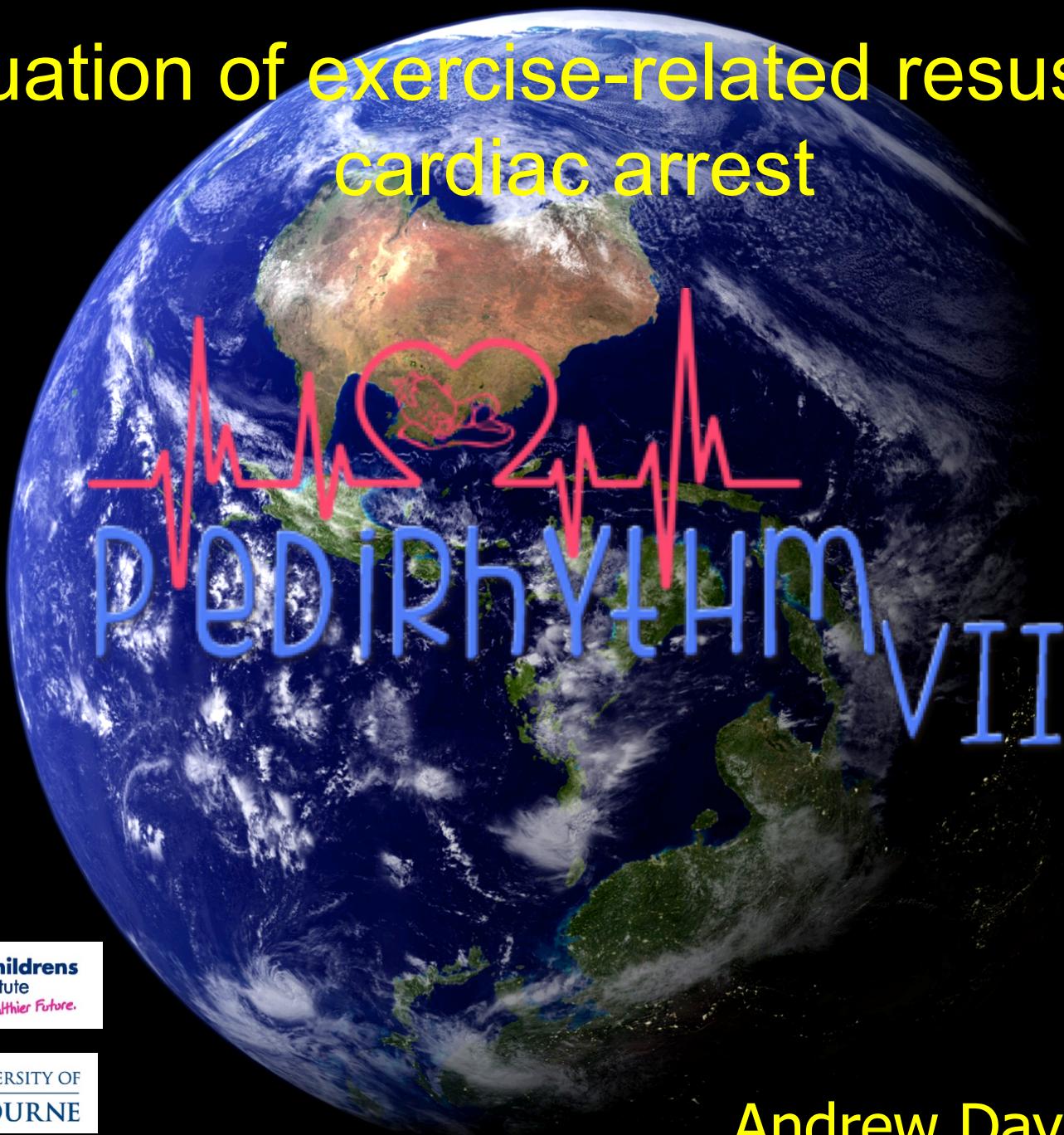
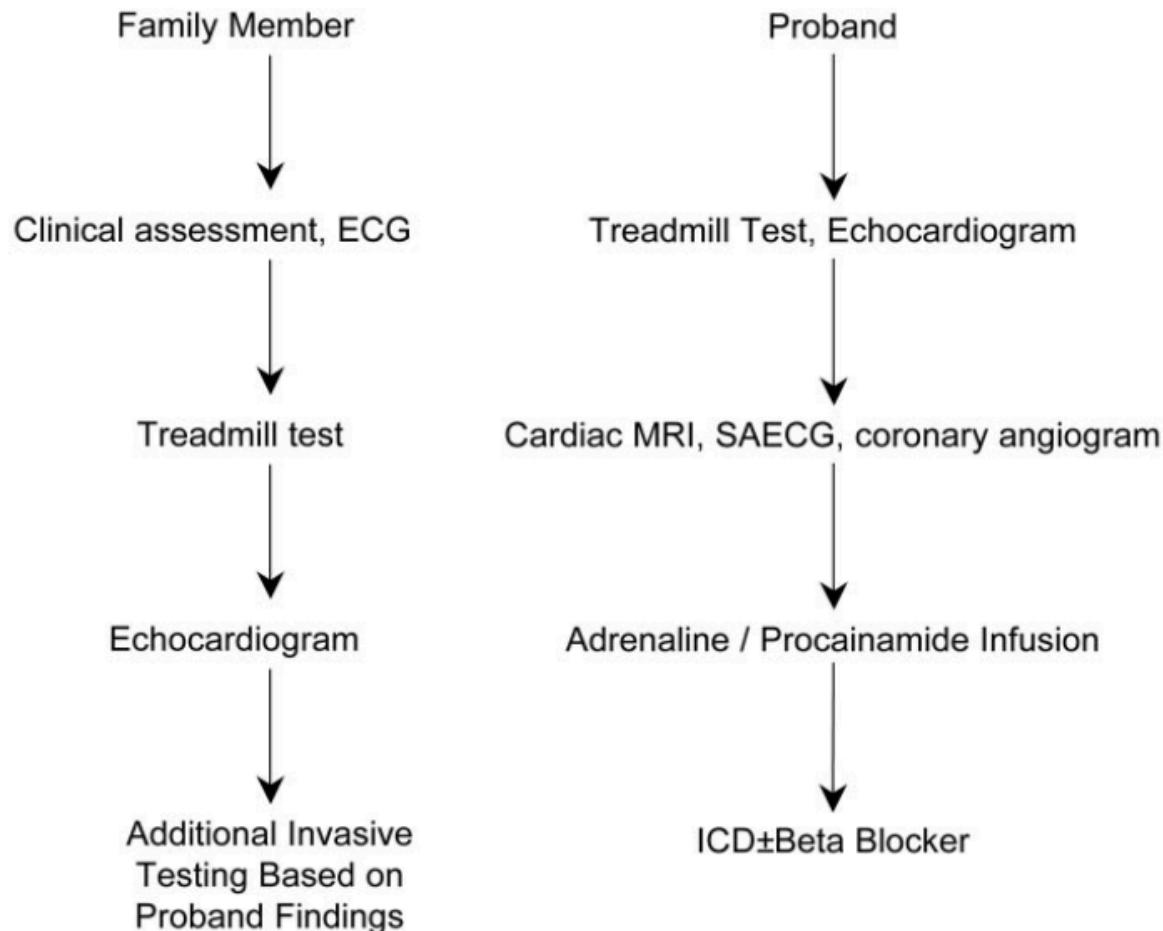


# Evaluation of exercise-related resuscitated cardiac arrest



# Diagnosis of Unexplained Cardiac Arrest: Role of Adrenaline and Procainamide Infusion

Andrew D. Krahn, Michael Gollob, Raymond Yee, Lorne J. Gula, Allan C. Skanes,  
Bruce D. Walker and George J. Klein



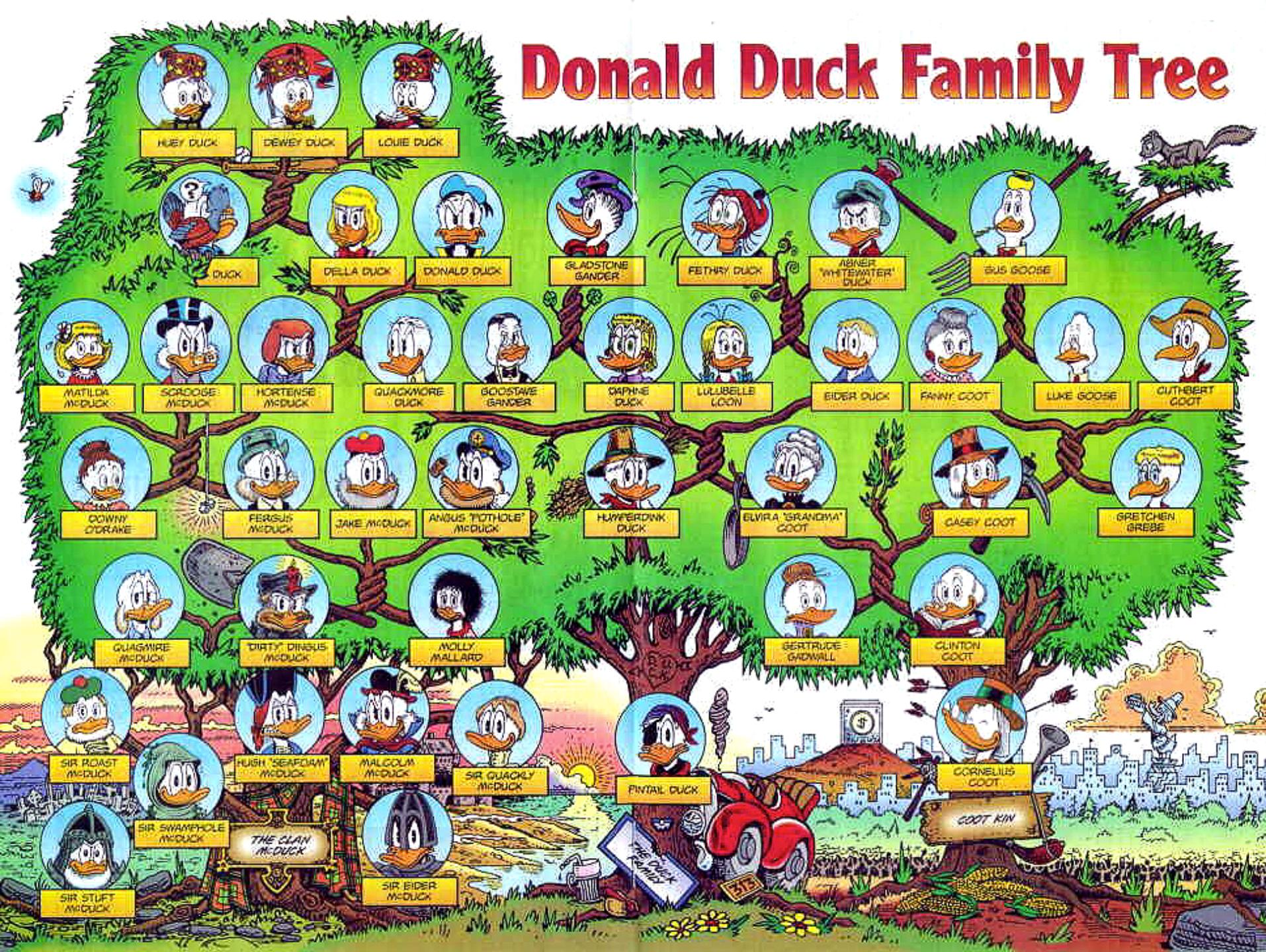
Circulation 2005

**Figure 1.** Schematic illustrating testing in family members and probands with UCA. SAECG indicates signal-averaged ECG. Other abbreviations are as defined in text.

**Thorough, Fastidious and Precise**

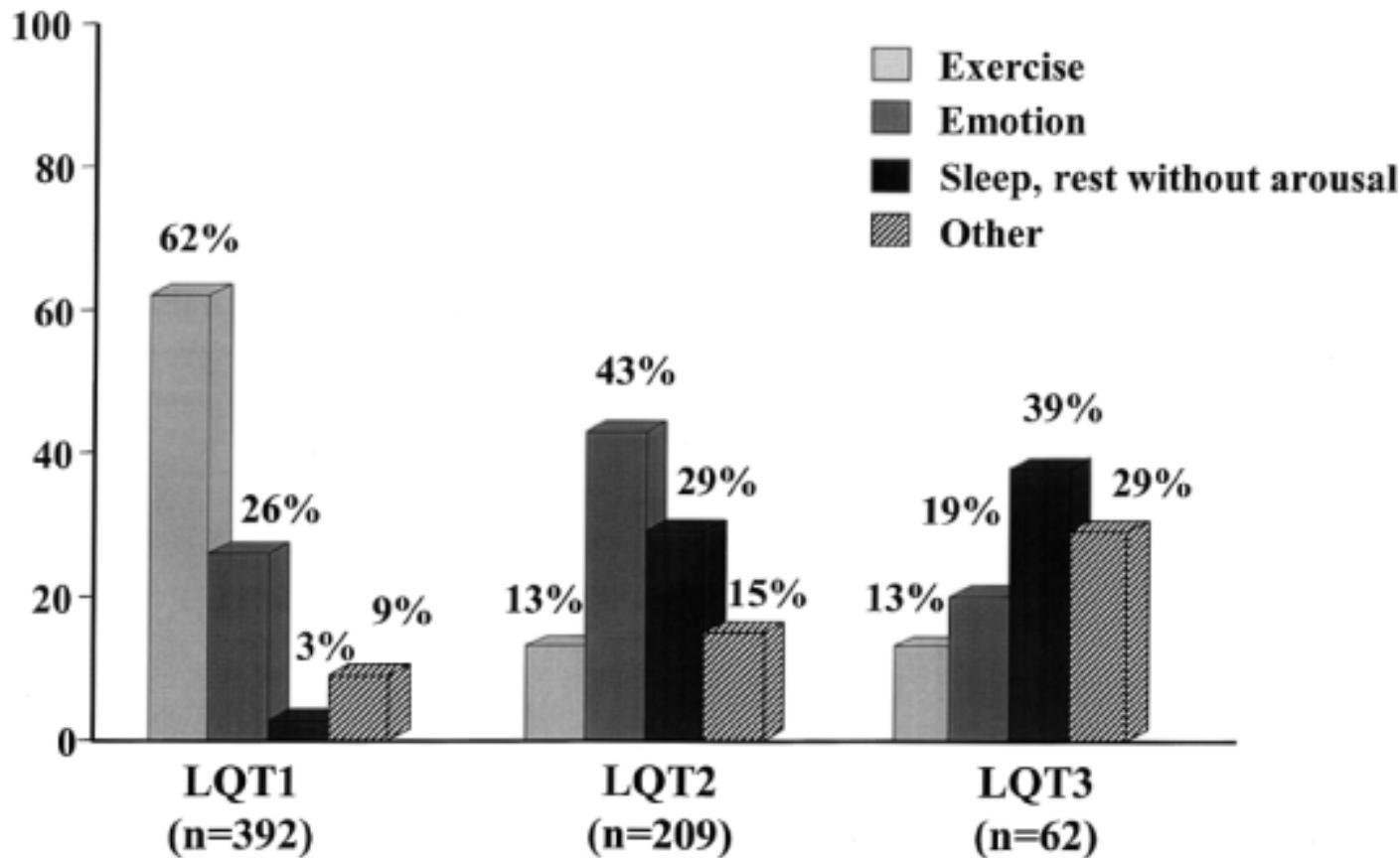


# Donald Duck Family Tree





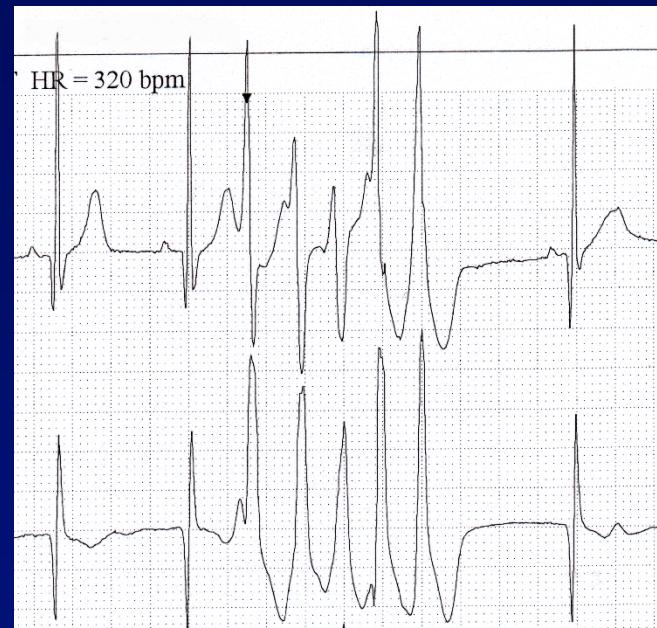
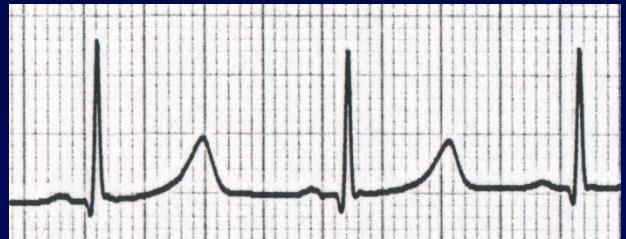
## Schwartz Circulation 2001



**Figure 1.** Triggers for cardiac events according to 3 genotypes. Numbers in parentheses indicate number of triggers, not number of patients.

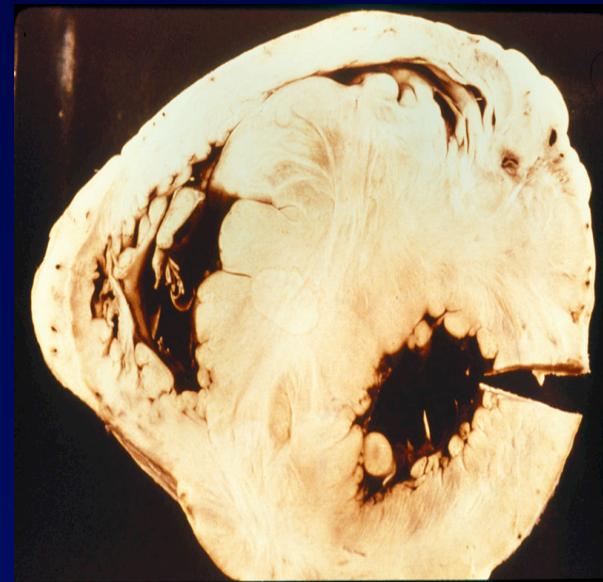
# Arrhythmic Sudden Death in Childhood: Structurally Normal Heart

- ♥ Congenital
  - ♥ Long QT syndrome
  - ♥ Short QT syndrome
  - ♥ CPVT
  - ♥ Brugada Syndrome
  - ♥ Early Repolarisation Syndrome
  - ♥ Idiopathic VF
  - ♥ WPW



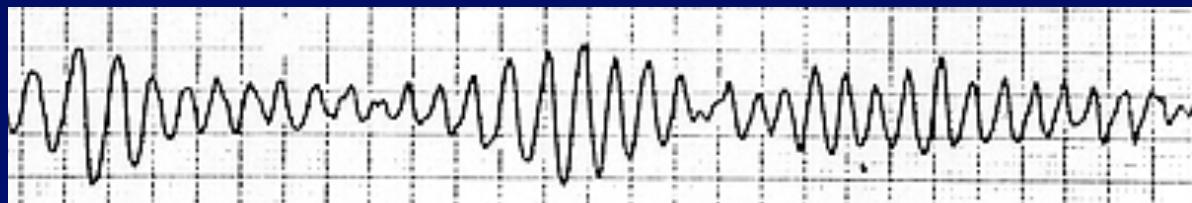
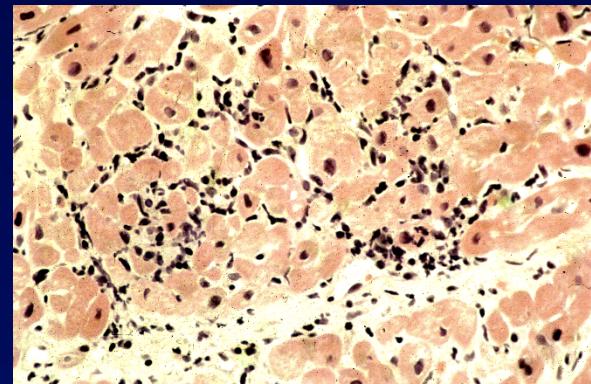
# Arrhythmic Sudden Death in Childhood: Structural

- ♥ After repair/palliation
  - ♥ Tetralogy/ Mustard/ other
- ♥ Aortic Stenosis
- ♥ HCM
- ♥ Dilated CM
- ♥ Restrictive CM
- ♥ LV non-compaction
- ♥ Coronary artery anomalies
- ♥ Cardiac tumours
- ♥ MVP
- ♥ ARVC

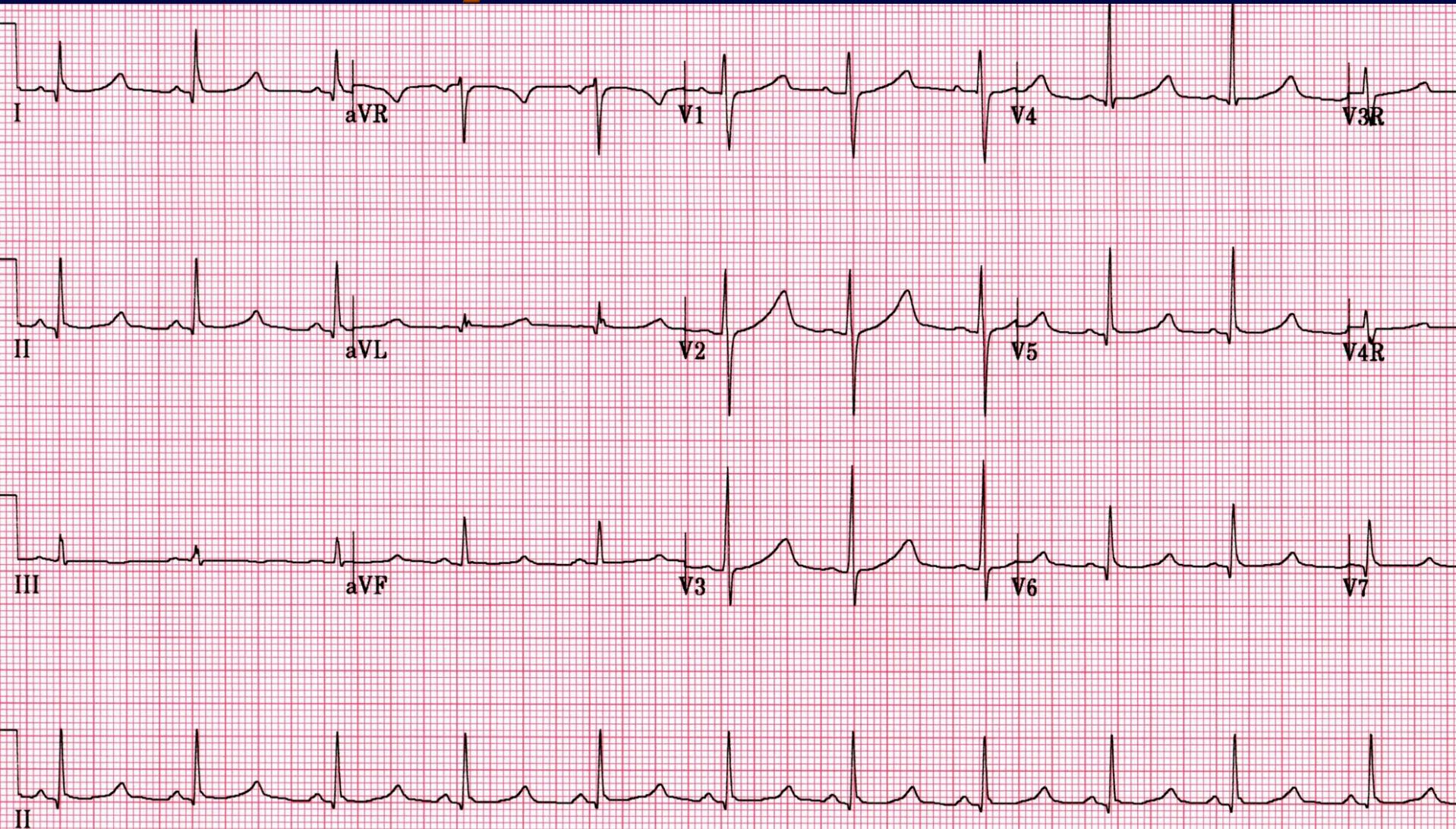


# Arrhythmic Sudden Death in Childhood: Structurally Normal Heart

- ♥ Acquired
  - ♥ Myocarditis
  - ♥ Kawasaki Disease
  - ♥ Drug induced Torsades de Pointes



# Sinus rhythm ECG



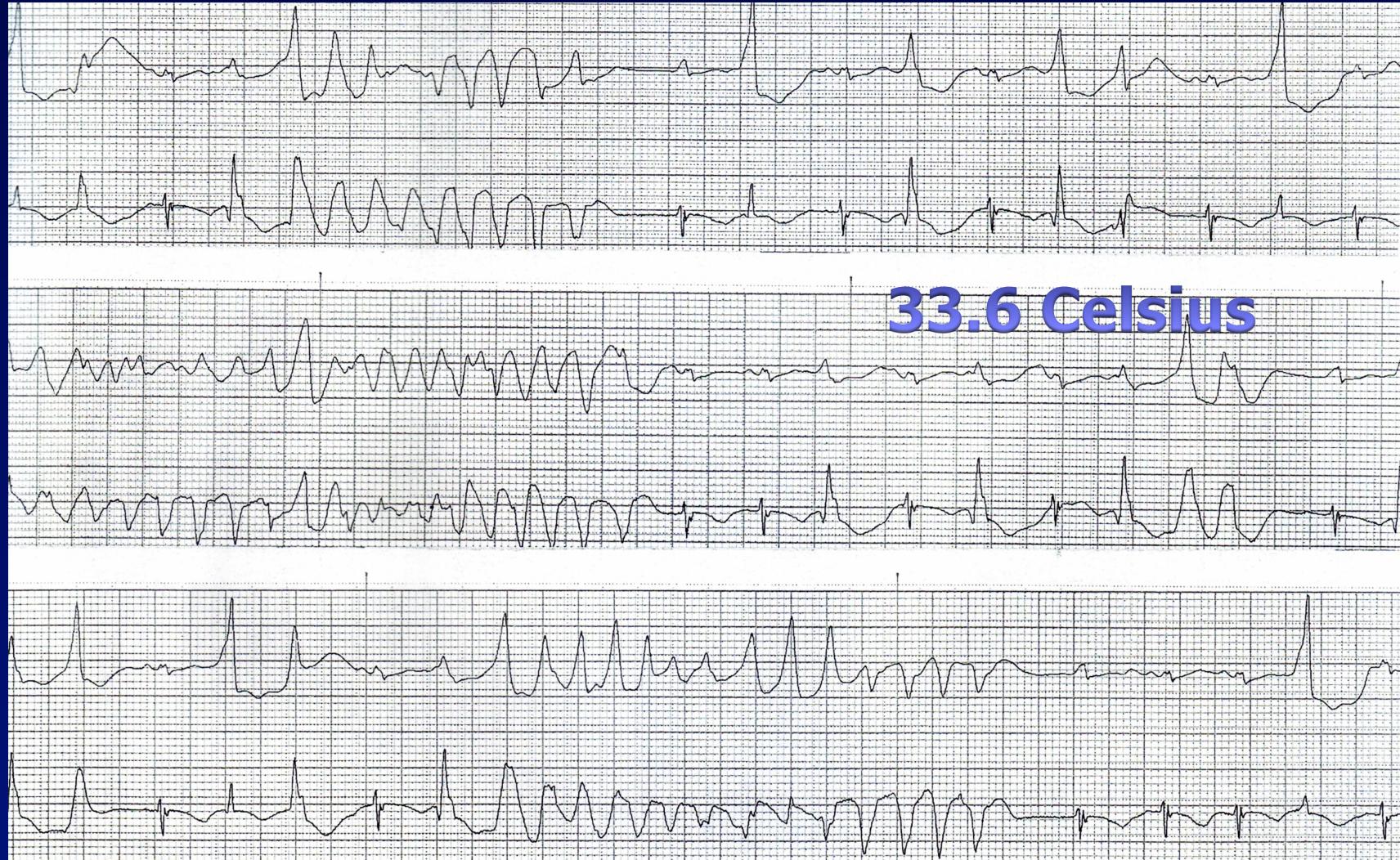
GOOG

GOOG

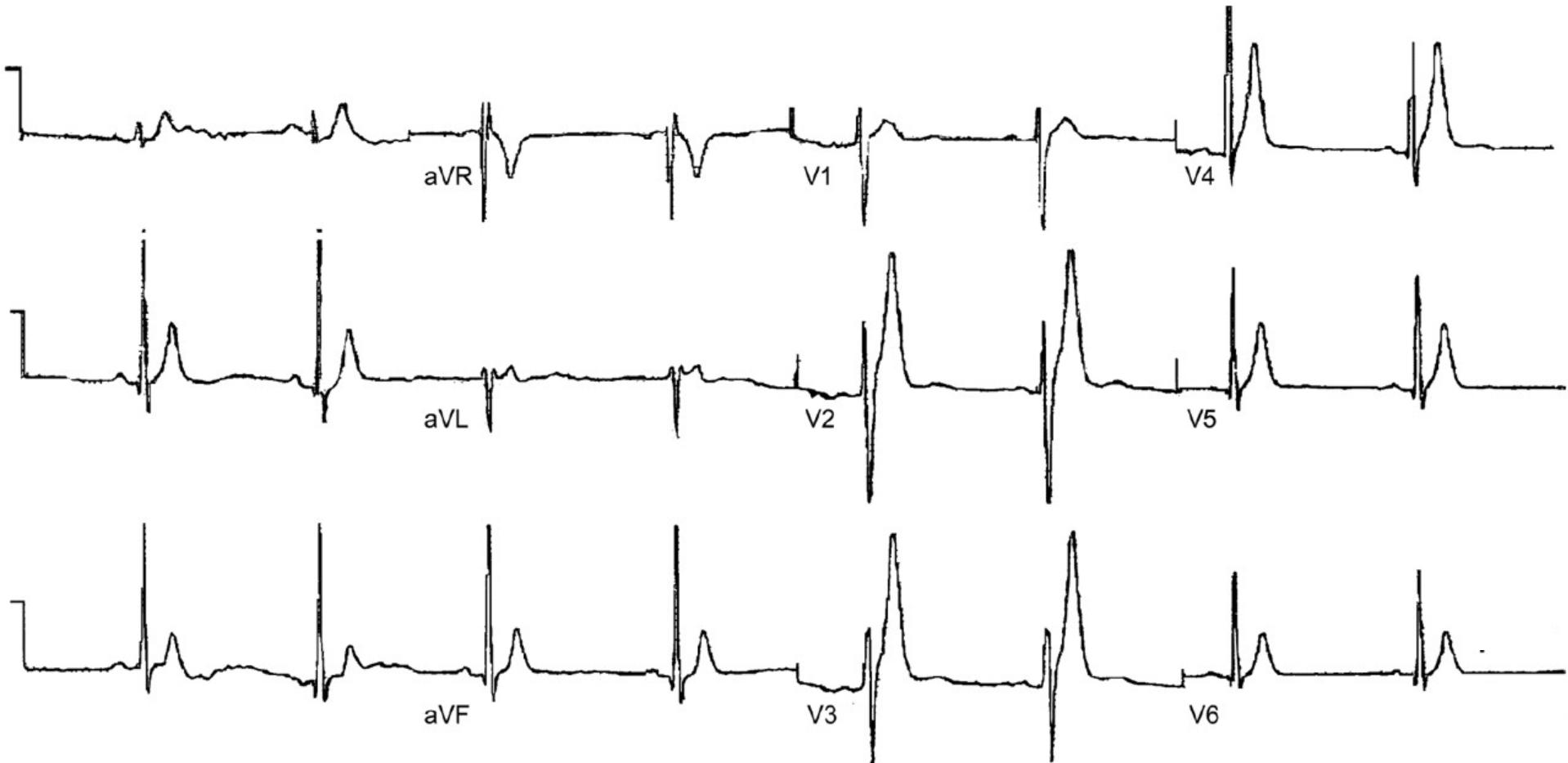
# QTc prolongation during therapeutic hypothermia: are we giving it the attention it deserves?

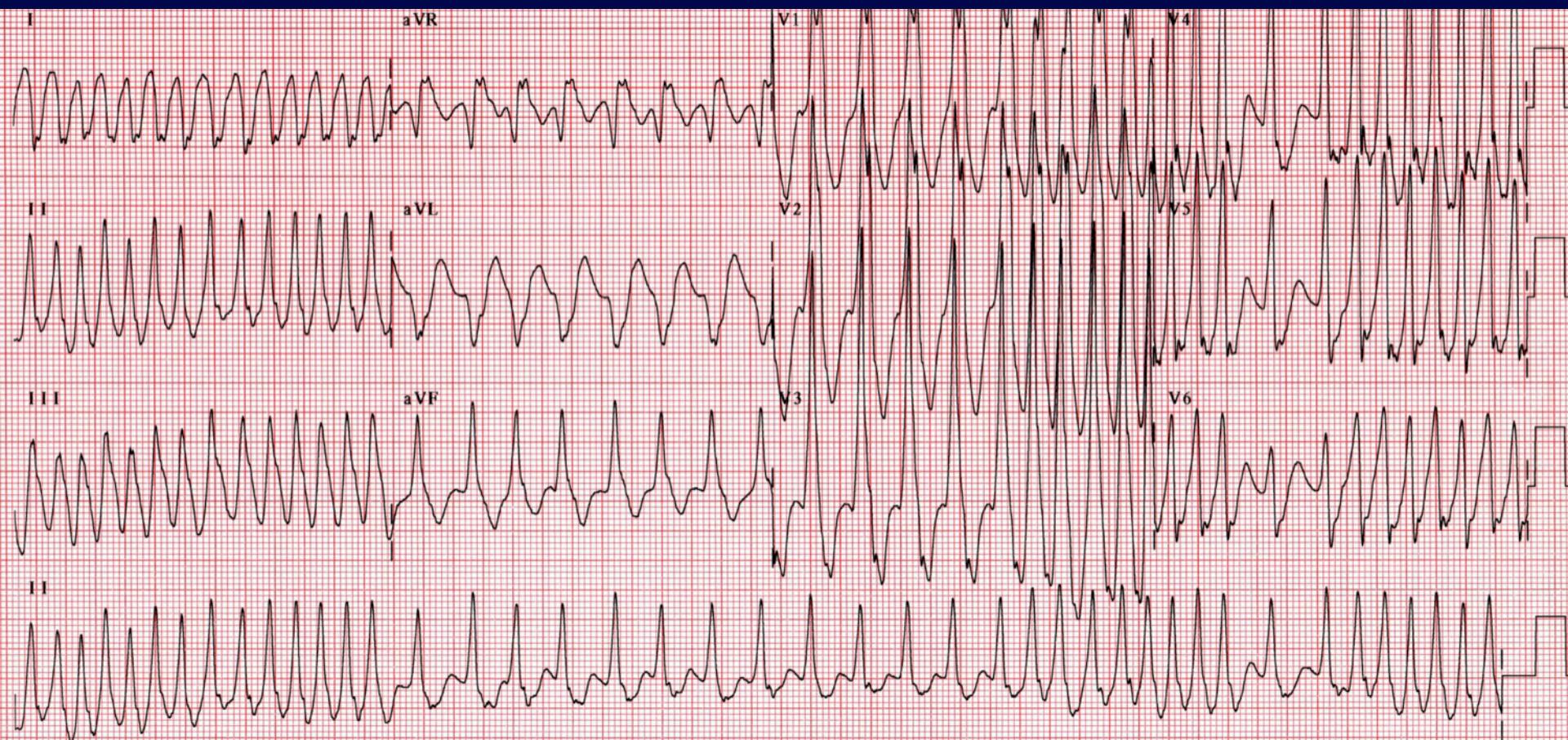
Europace 2010

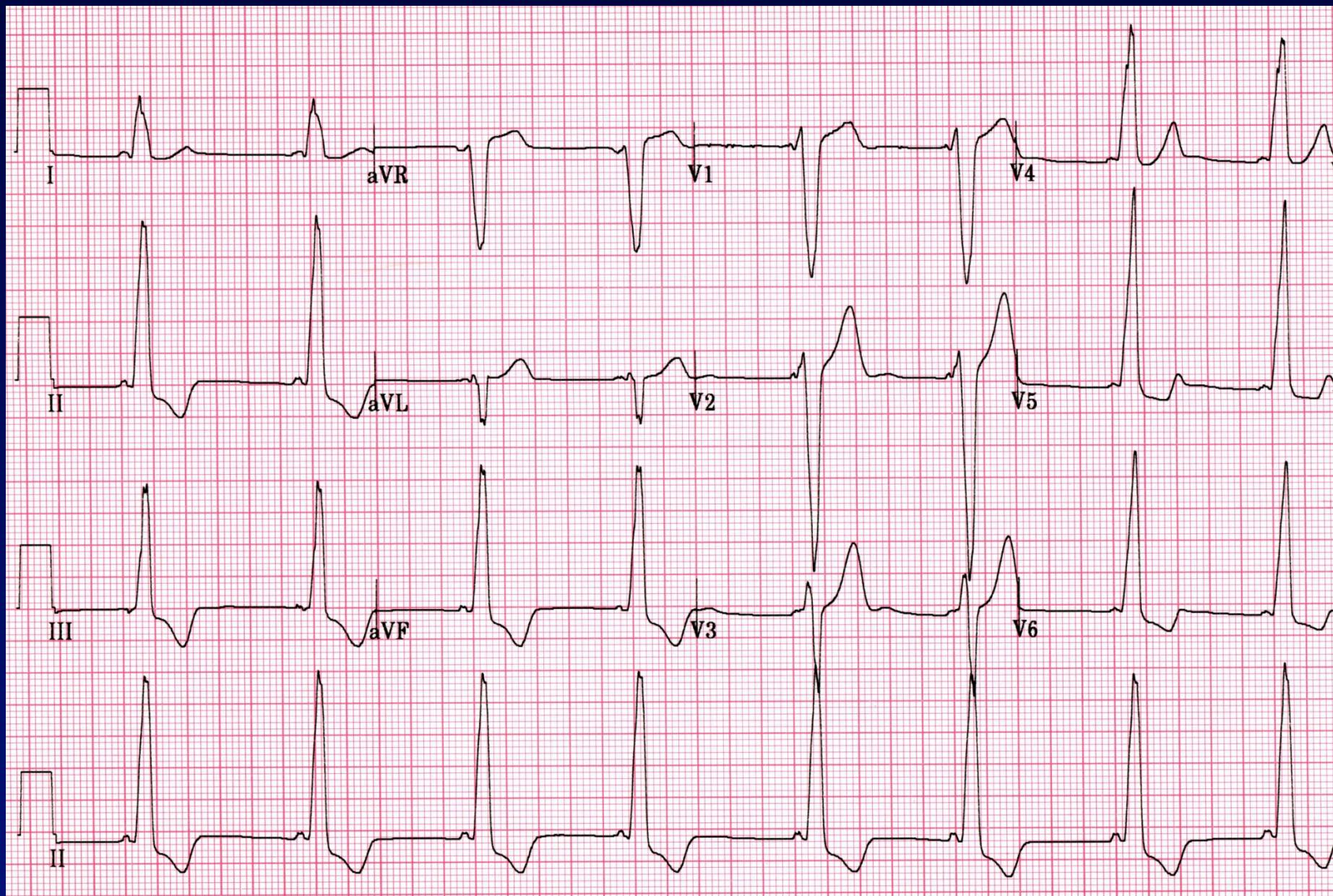
Jamal Nasir Khan<sup>1,2\*</sup>, Neeraj Prasad<sup>2</sup>, and James Michael Glancy<sup>2</sup>

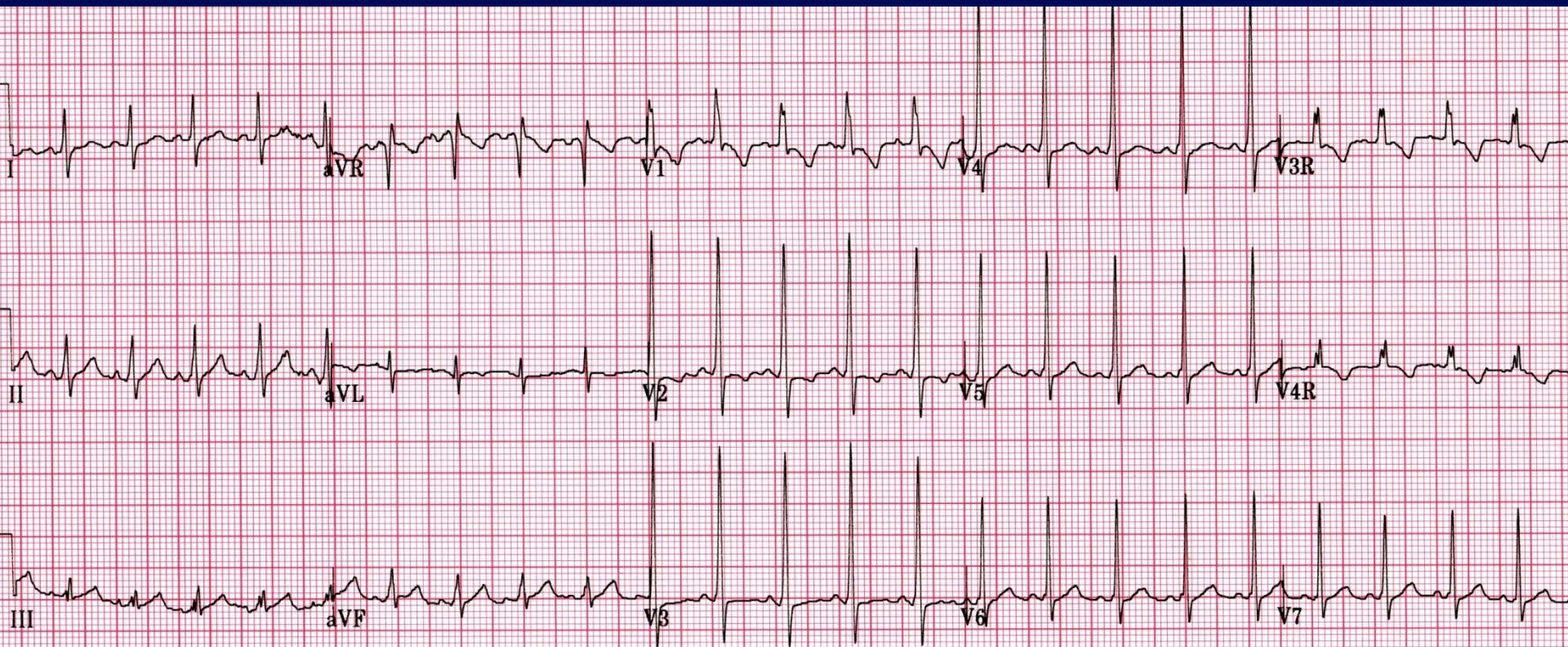


# Short QT Syndrome



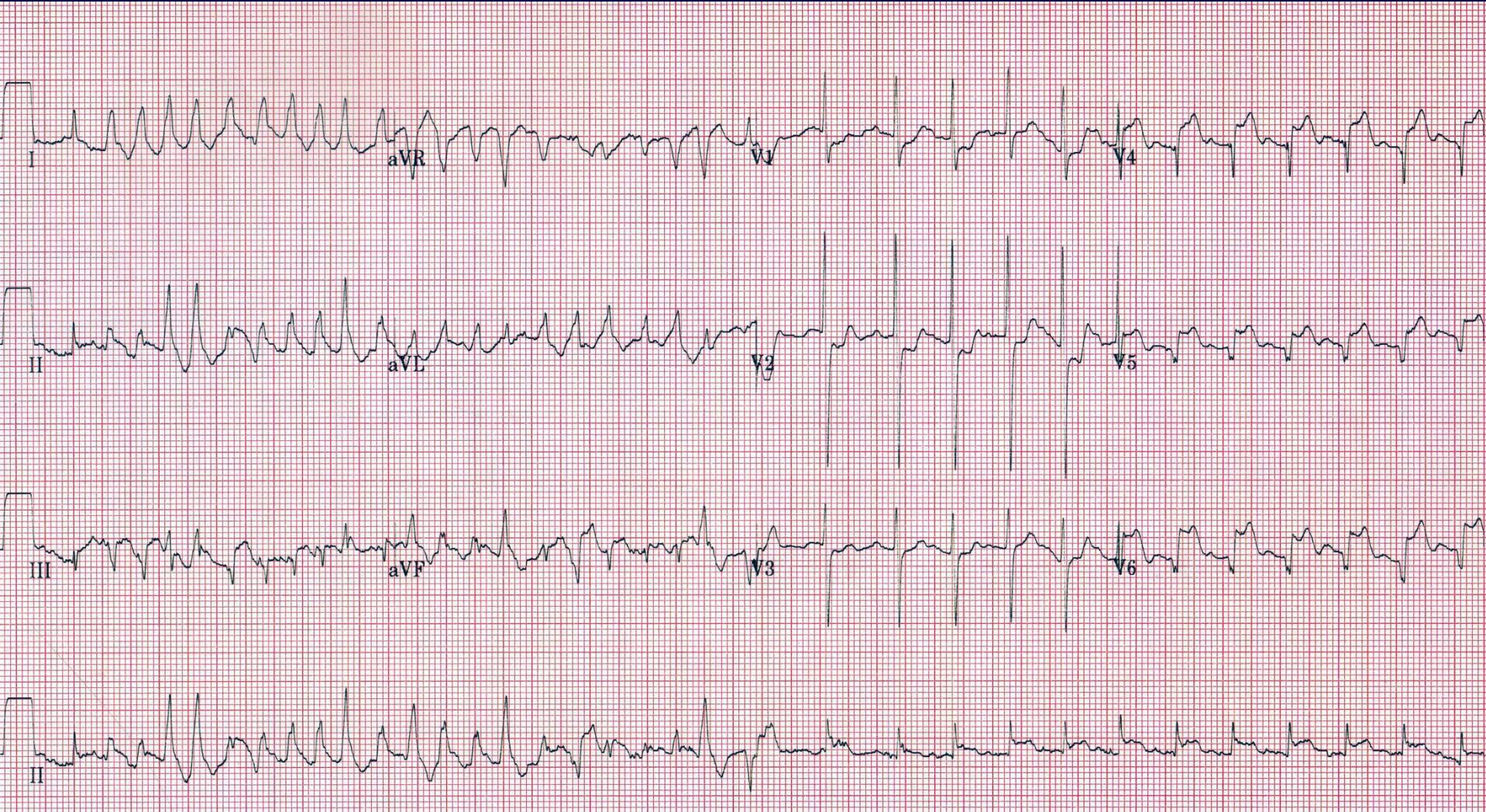




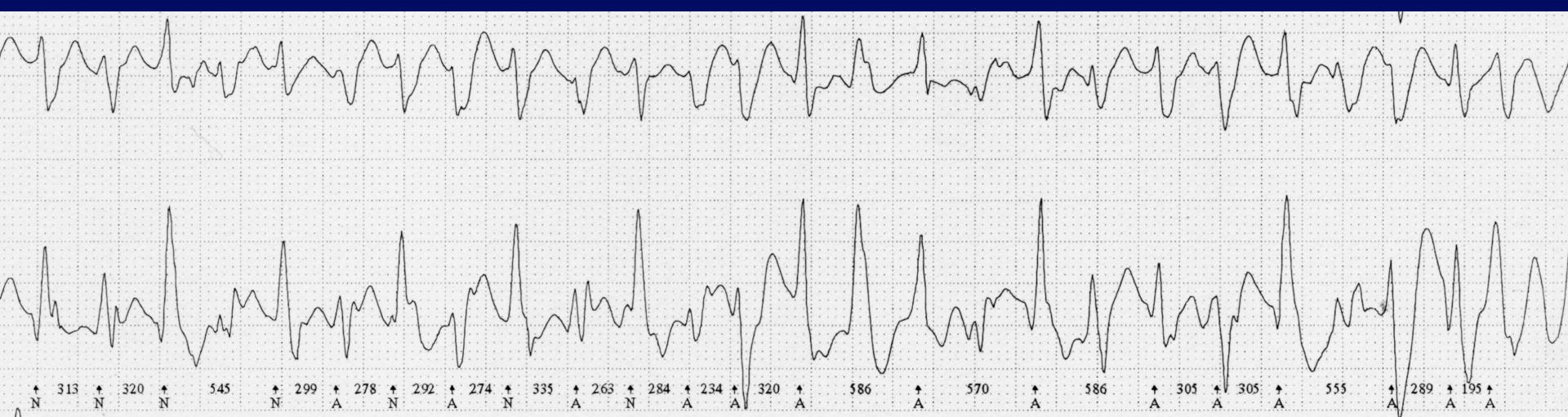
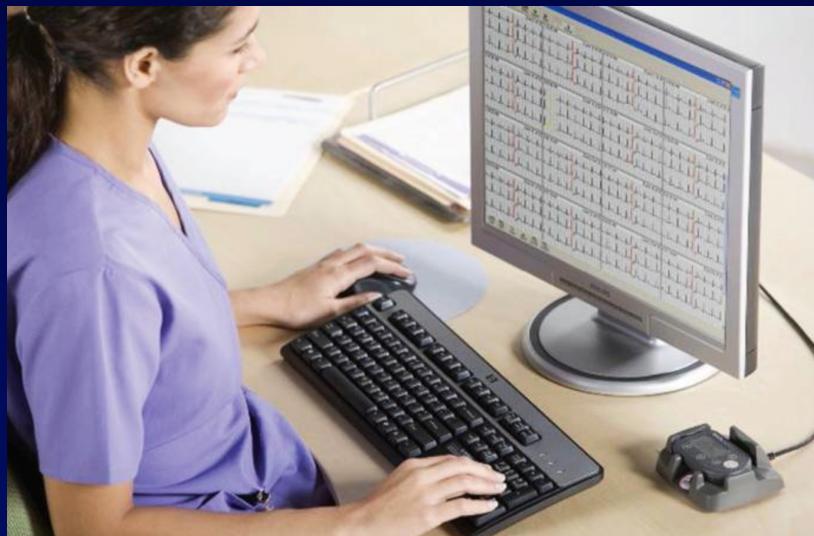


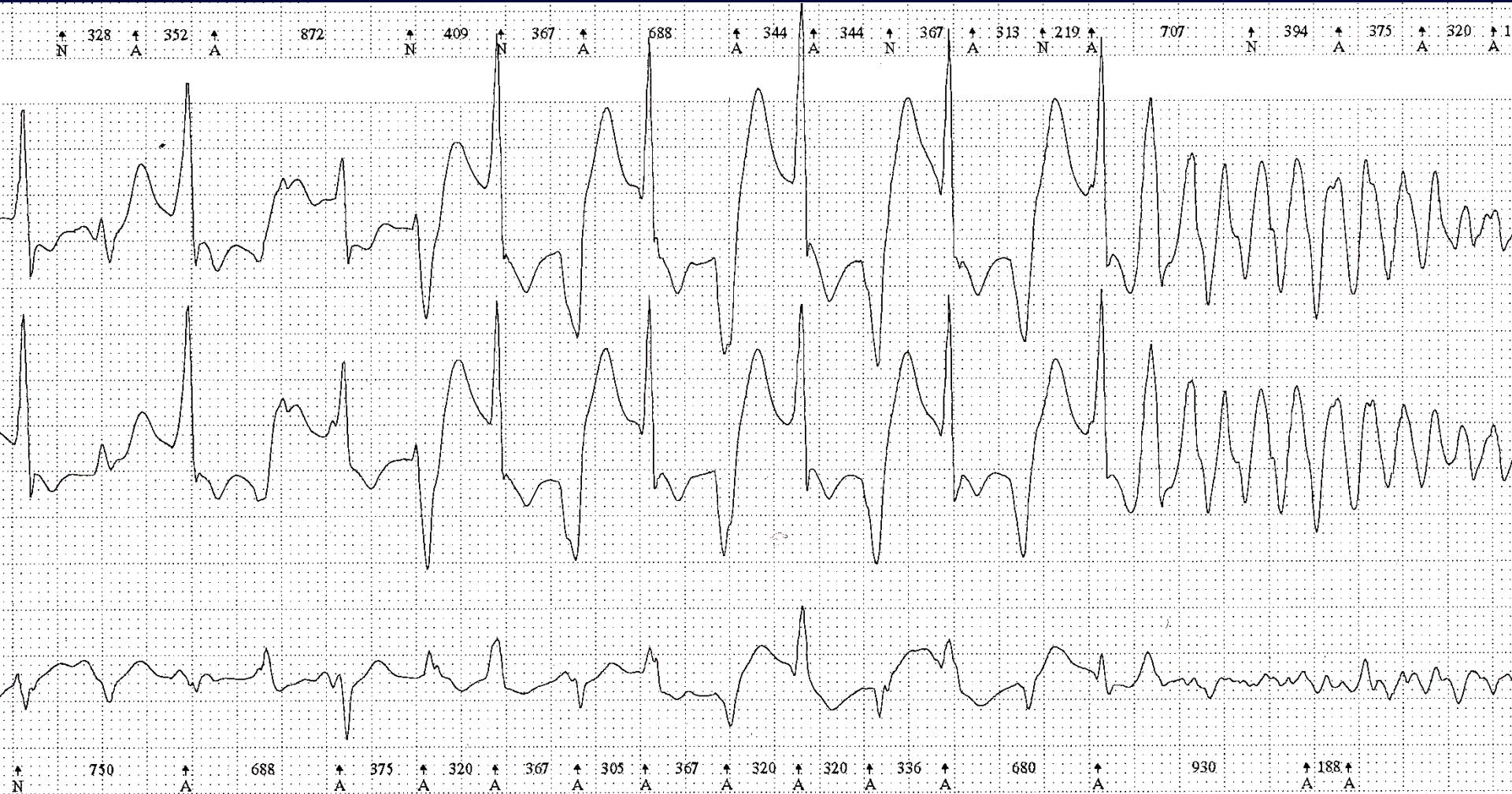
# Brugada

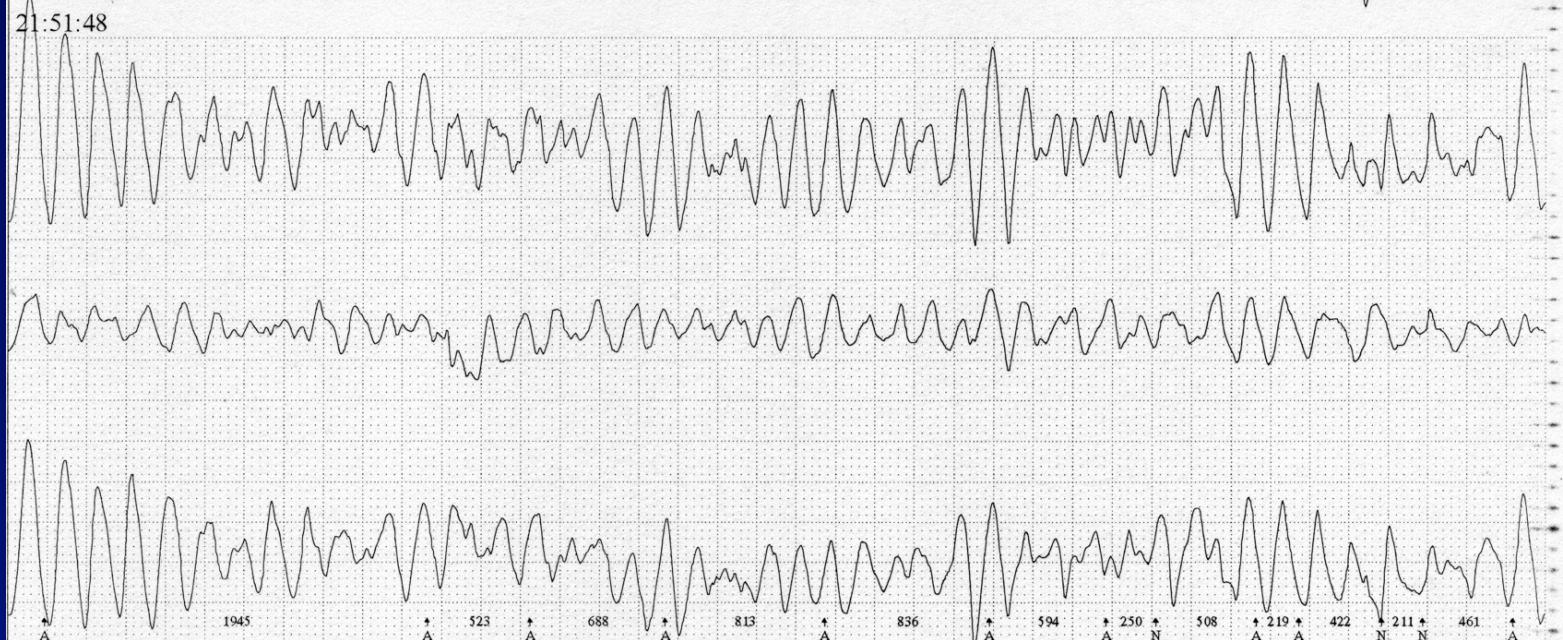
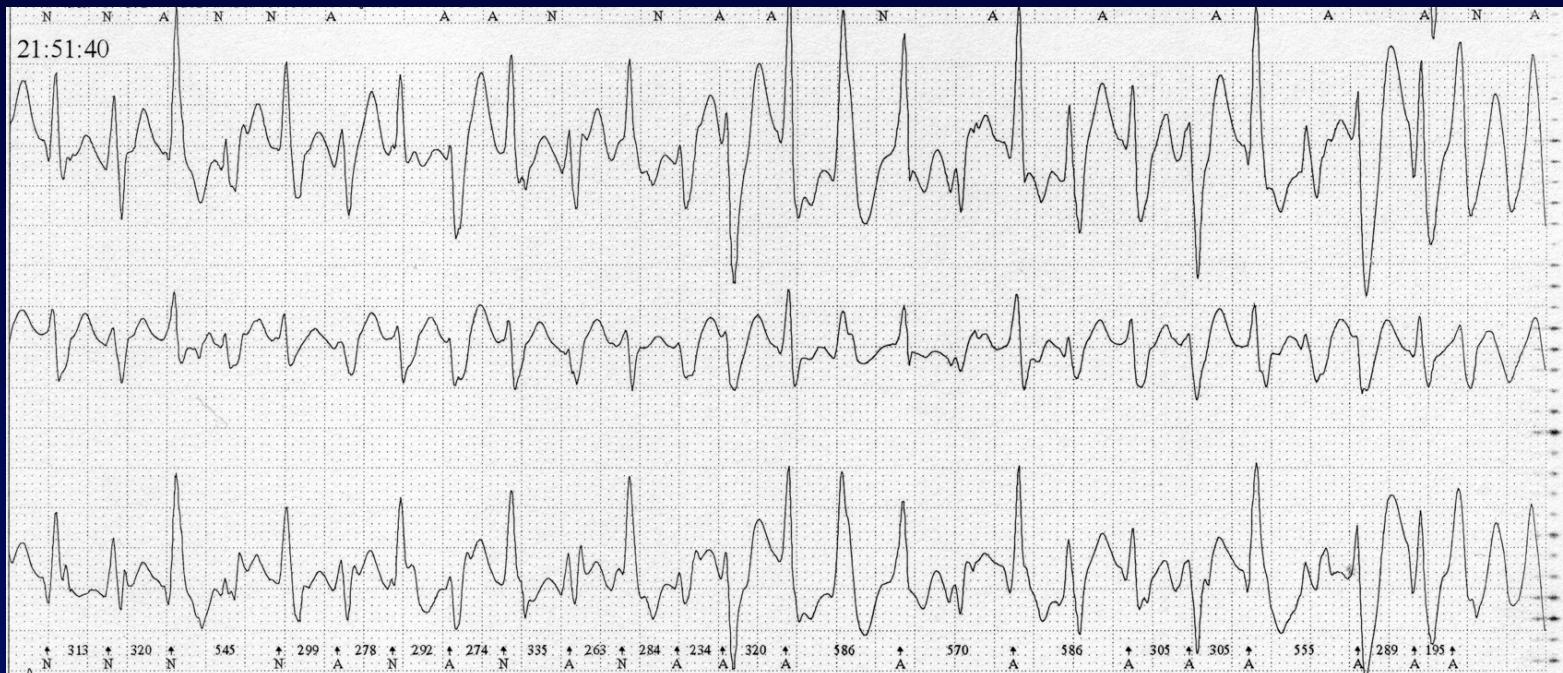




# Continuous Holter for clues



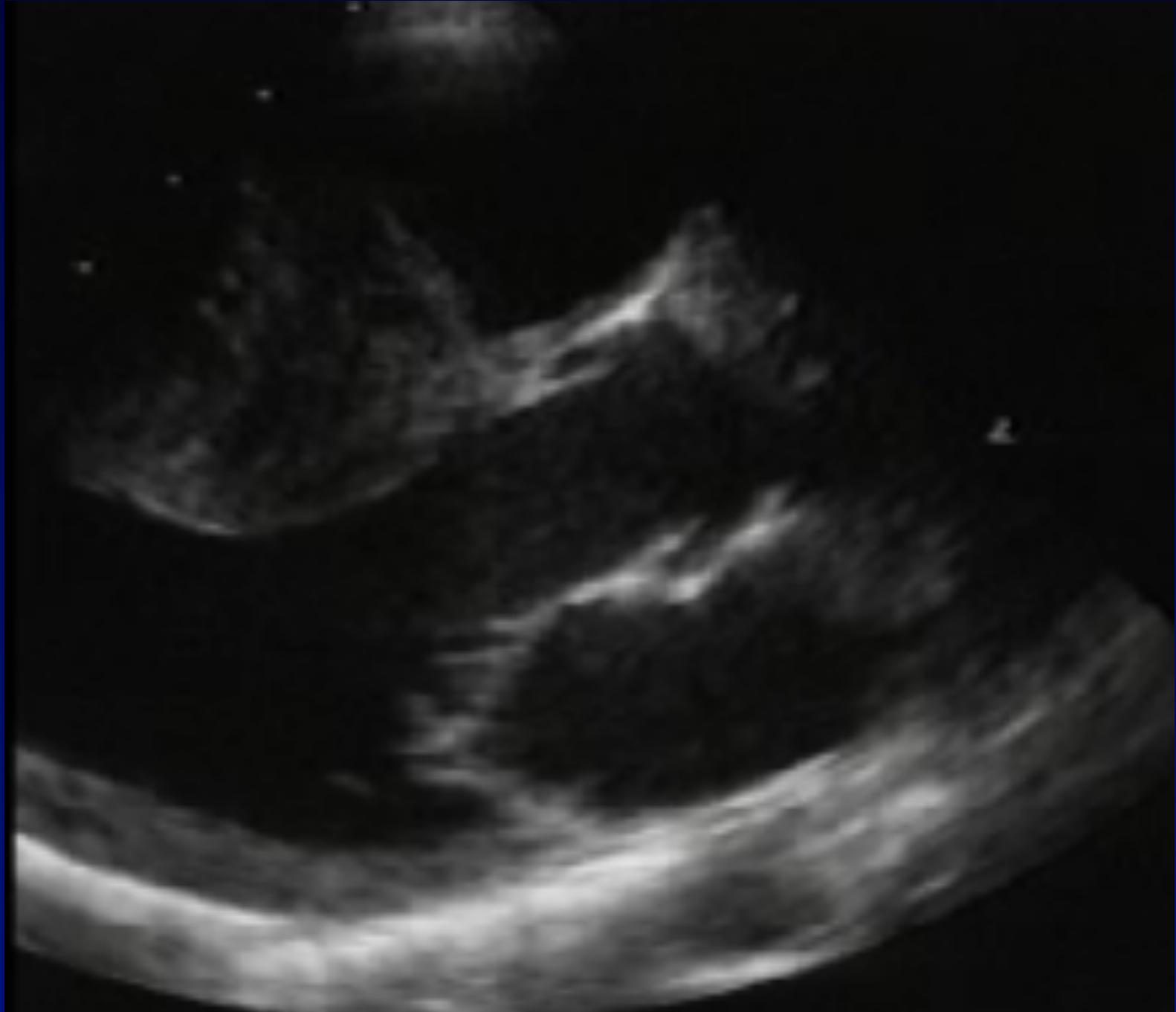




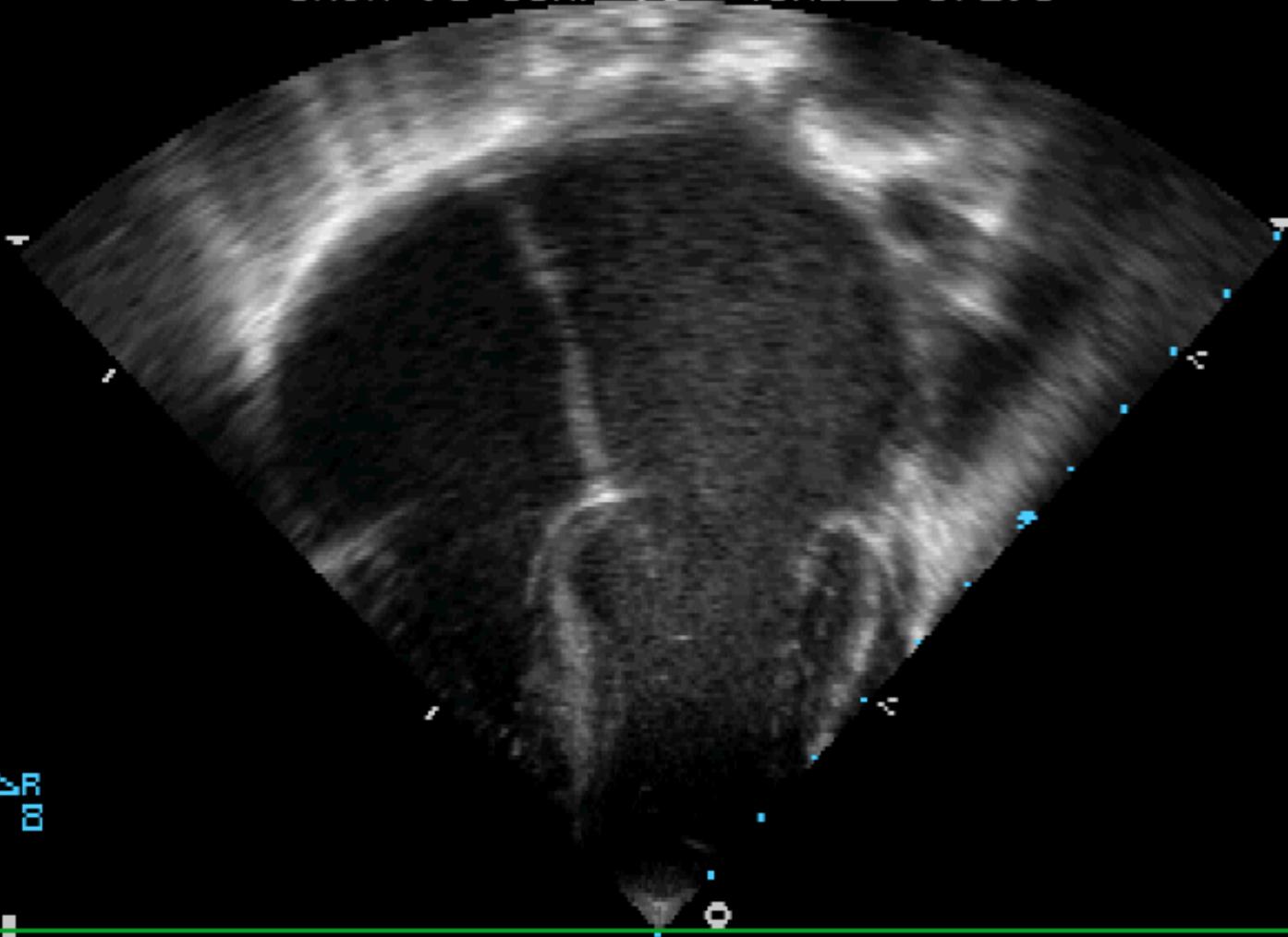
# Onset of PMVT/VF Viskin Belhassen

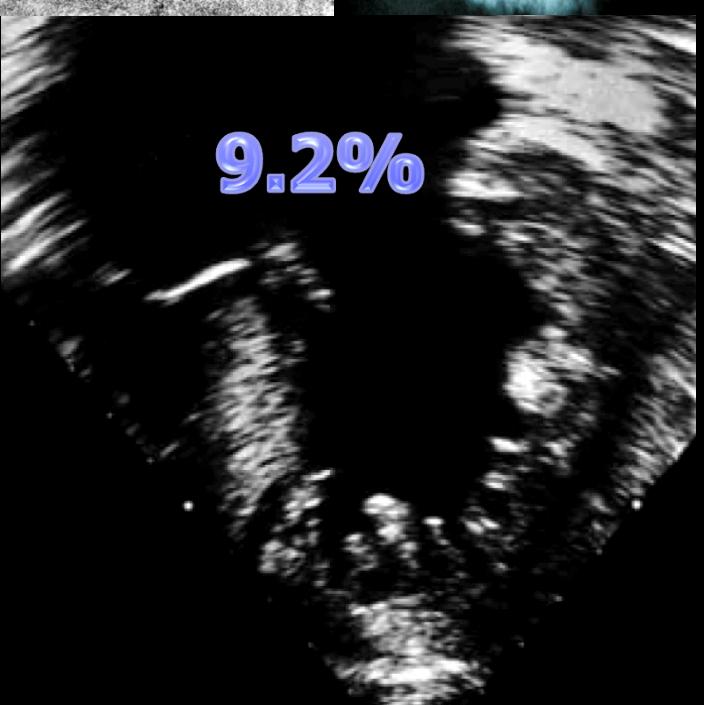
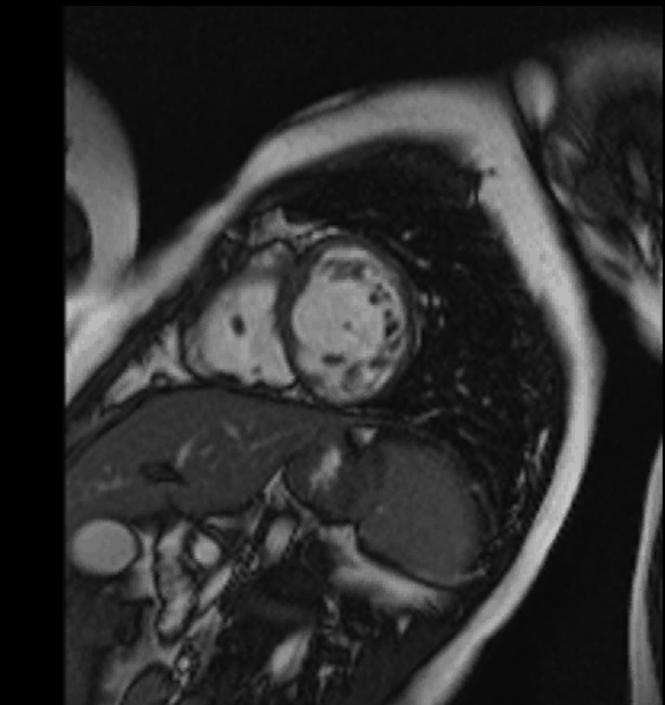
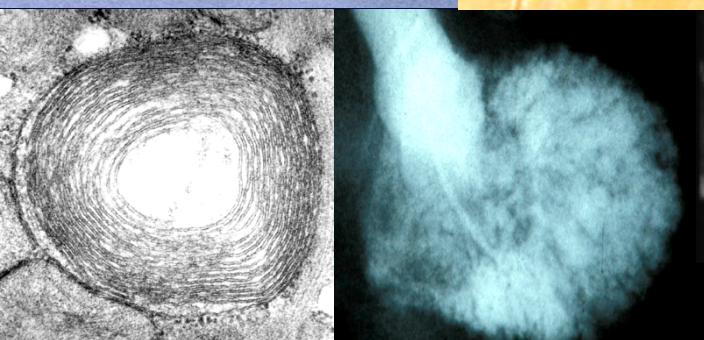
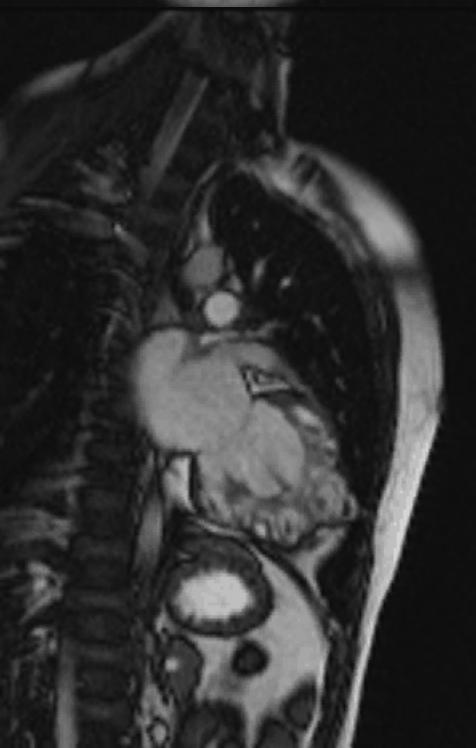
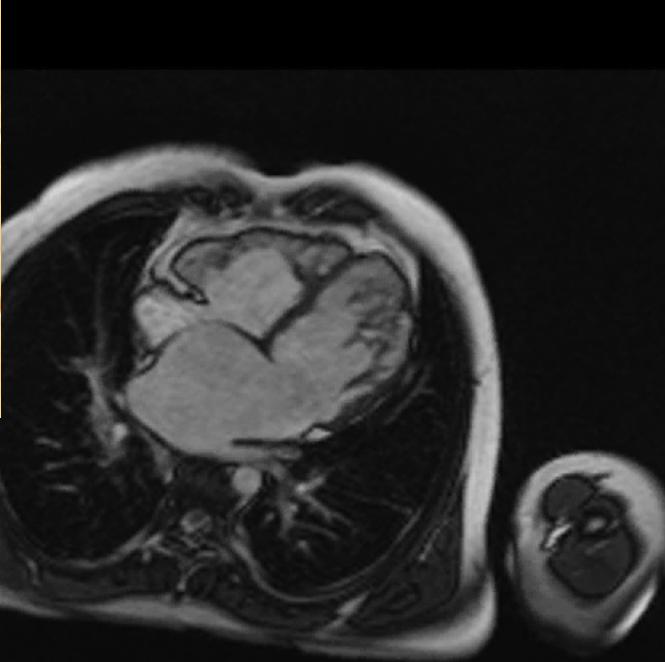
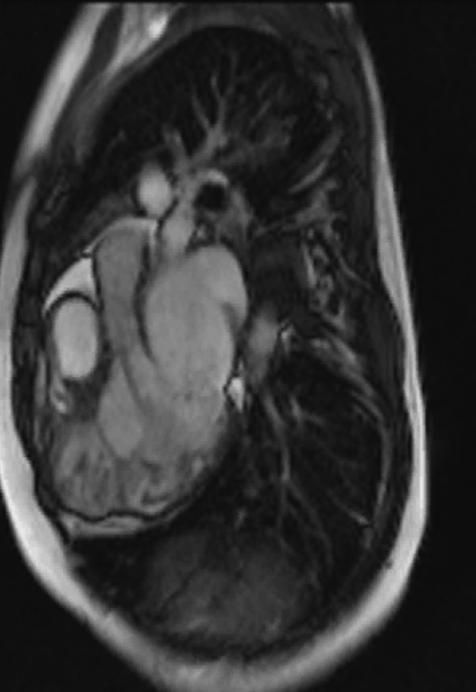
**TABLE 1. Polymorphic Ventricular Arrhythmias in the Absence of Organic Heart Disease.  
Classification Based on Clinical and Electrocardiographic Characteristics\***

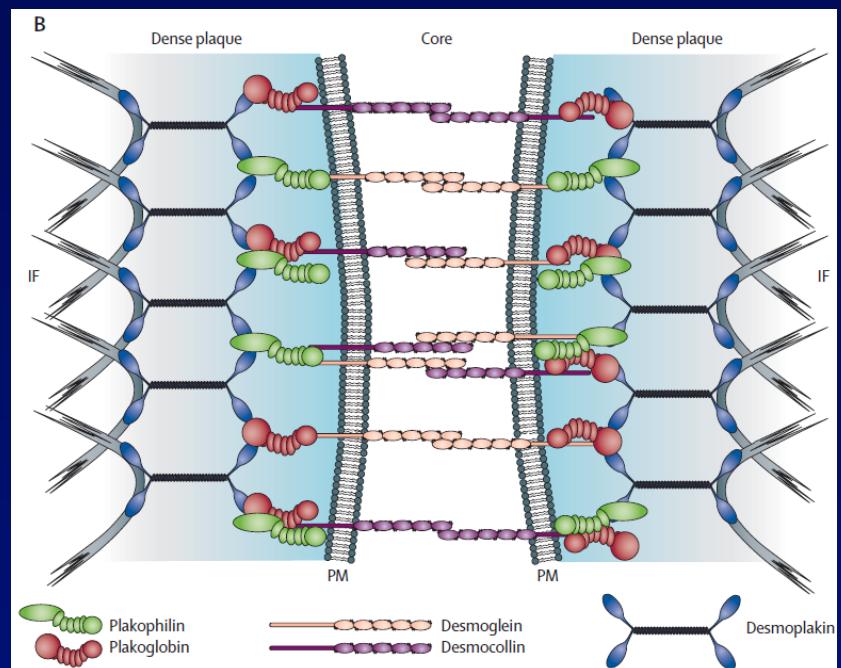
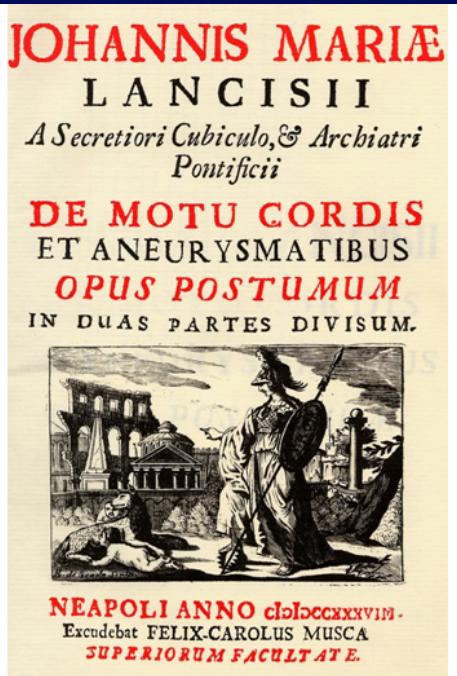
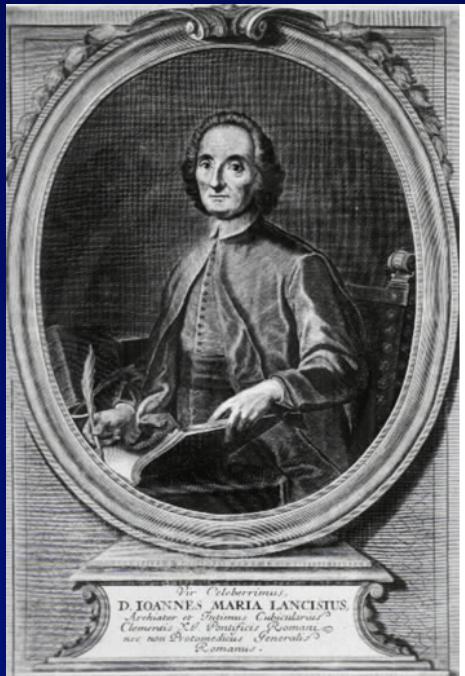
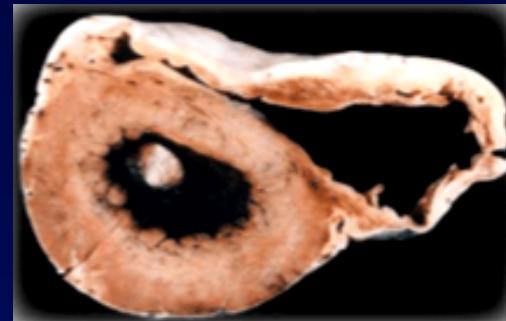
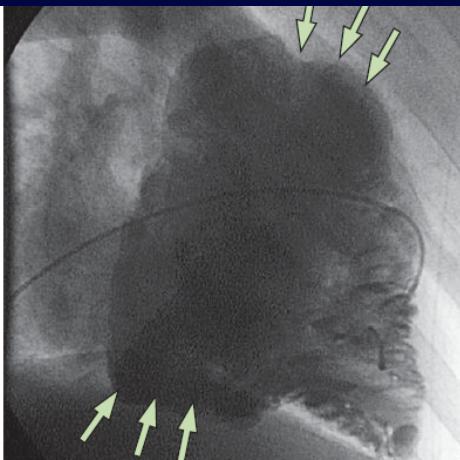
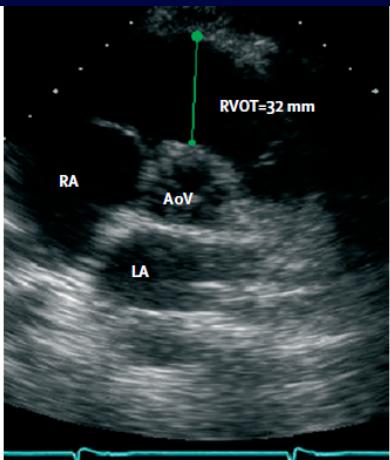
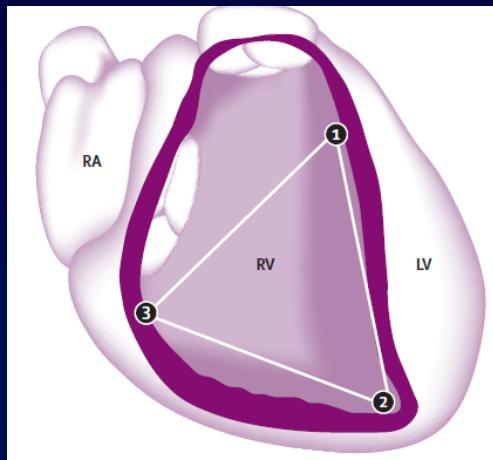
Patient Group (First Series Reported)	Patient Characteristics		Arrhythmia Precipitation	Prog CV Dis 1998	
	a) Age	b) Gender		Stress- related	Mode of Onset
<b>I. Polymorphic VT</b>					
Congenital LQTS (Jervell- Lange Nielsen <sup>4</sup> and Romano-Ward <sup>5,6</sup> )	a) $21 \pm 15$ years†	Long QT	Often§	Pause-dependent	$\beta$ -blockers
Catecholaminergic poly- morphic VT (Leenhardt <sup>8</sup> )	b) Female > male‡	Abnormal TU morphology		Long CI	Pacemaker
Short-coupled variant of torsade de pointes (Leenhardt <sup>7</sup> )	c) Common				ICD, other¶
	a) $8 \pm 4$ years	Normal	Always	Typical (see text)	$\beta$ -blockers
	b) M/F = 1.3/1	Sinus bradycardia			
	c) Common				
	a) $35 \pm 10$ years	Normal	Rarely	Not pause-dependent	ICD
	b) M/F = 1/1			Short CI	
	c) Common				
<b>II. Ventricular Fibrillation</b>					
Idiopathic VF with normal ECG (Belhassen <sup>9</sup> )	a) $36 \pm 16$ years	Normal	No	Not pause-dependent	ICD
	b) M/F = 1.4/1			Short CI	Class 1A
	c) No				
Idiopathic VF with RBBB and ST↑ (Brugada <sup>10</sup> )	a) $46 \pm 7$ years	RBBB + ST↑	Rarely	Not pause-dependent	ICD
	b) M/F > 10/1			Short CI	
	c) Common				
Sleep-death syndrome (Aponte <sup>11</sup> )	a) $35 \pm 10$ years	RBBB + ST↑	Sleep	Not pause-dependent	ICD
	b) M/F = 10/1			Short CI	
	c) Rare				

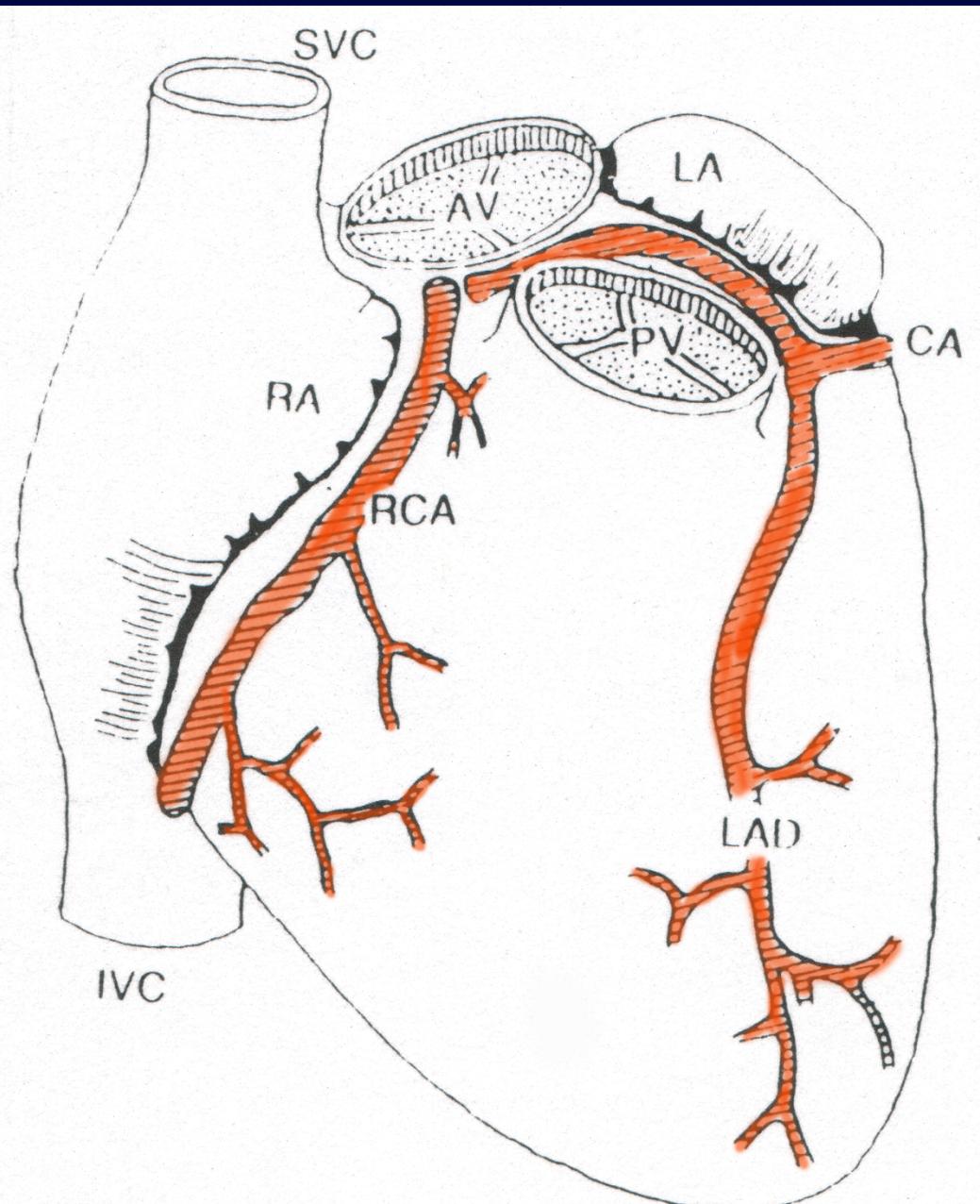


07 OCT 04 15:22:14 HOSP. MELBOURNE  
1/0/0/F3 12CM RCH.  
GAIN 71 COMP 75 40HZ 09276

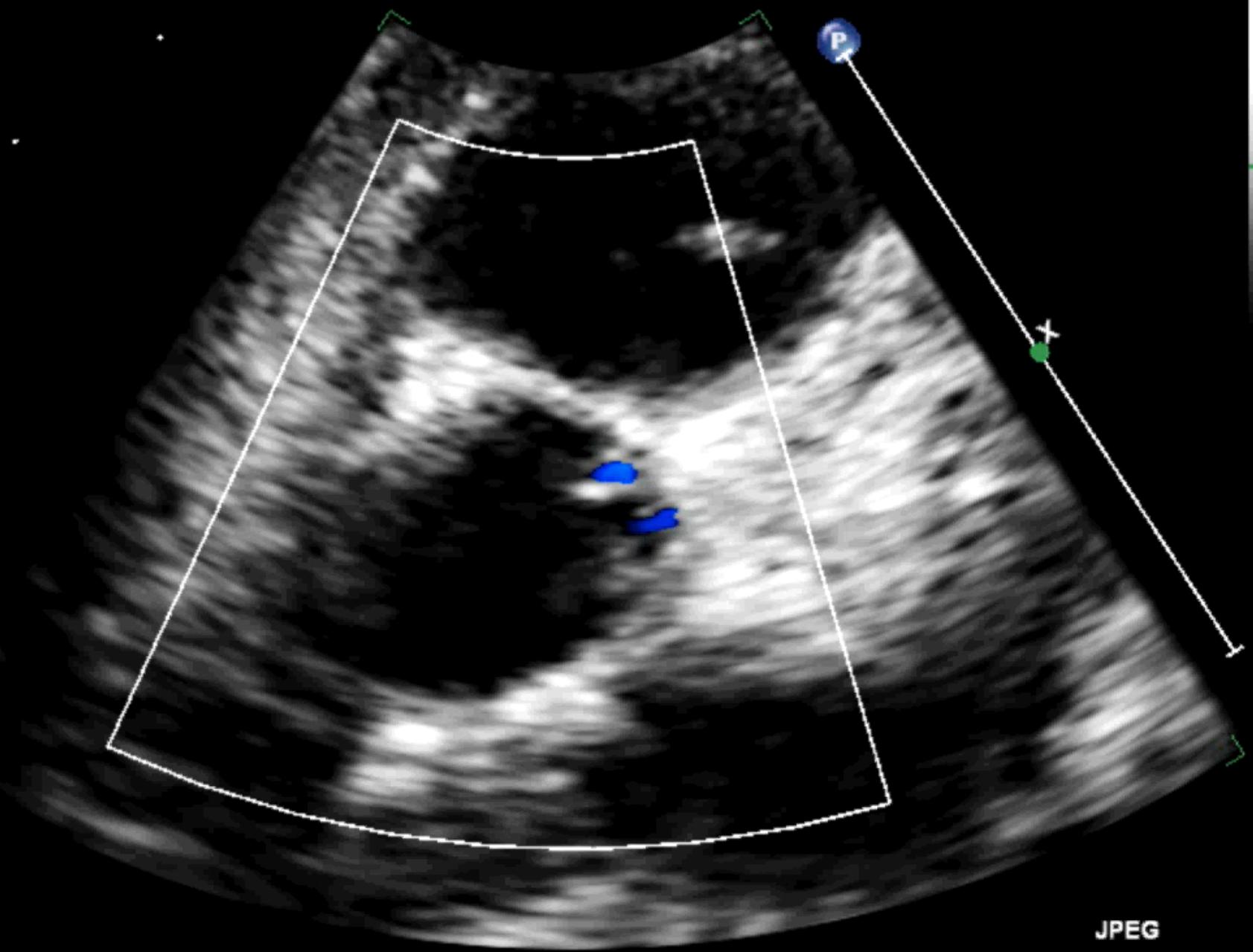








Lipsett et al 1994



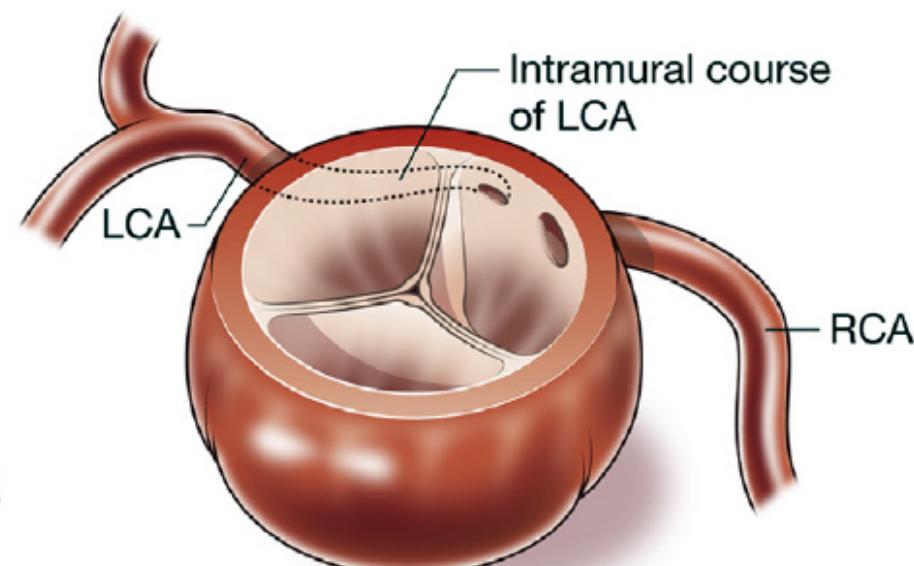
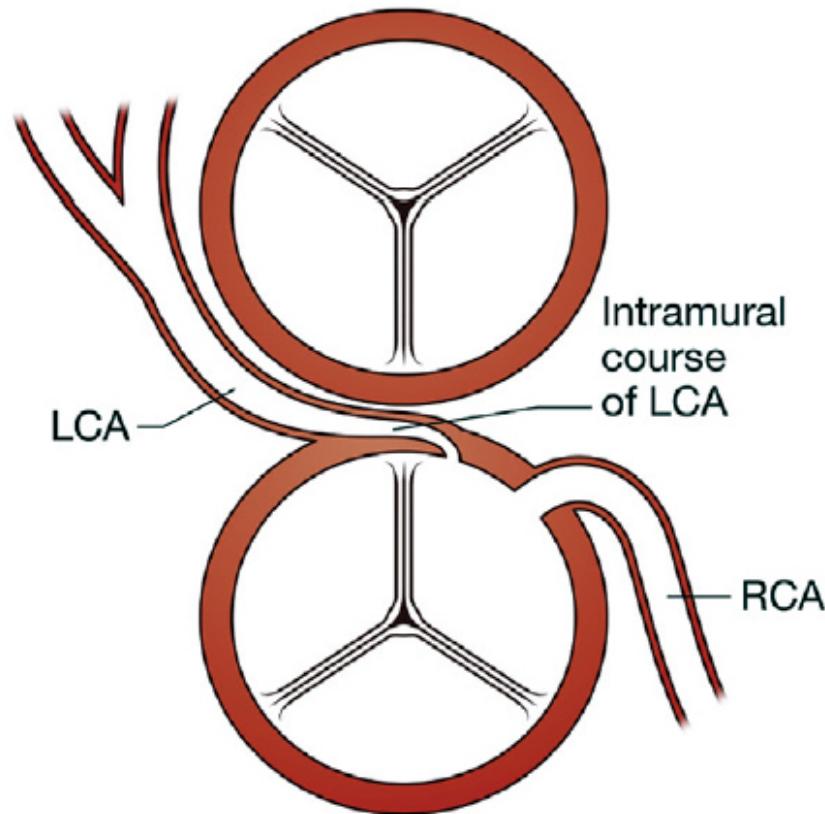
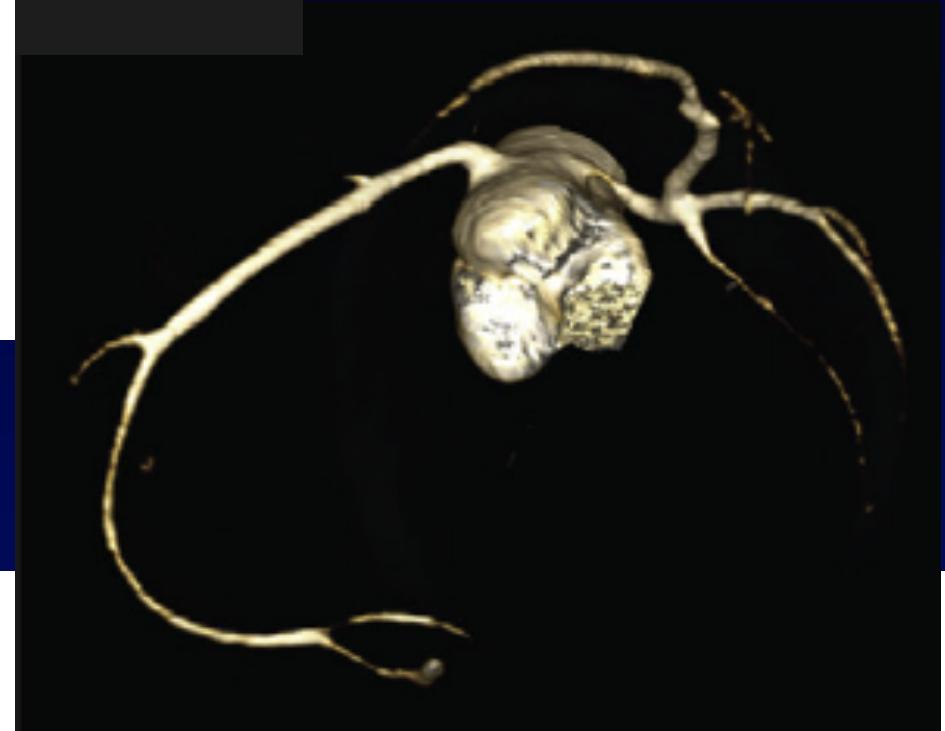
JPEG

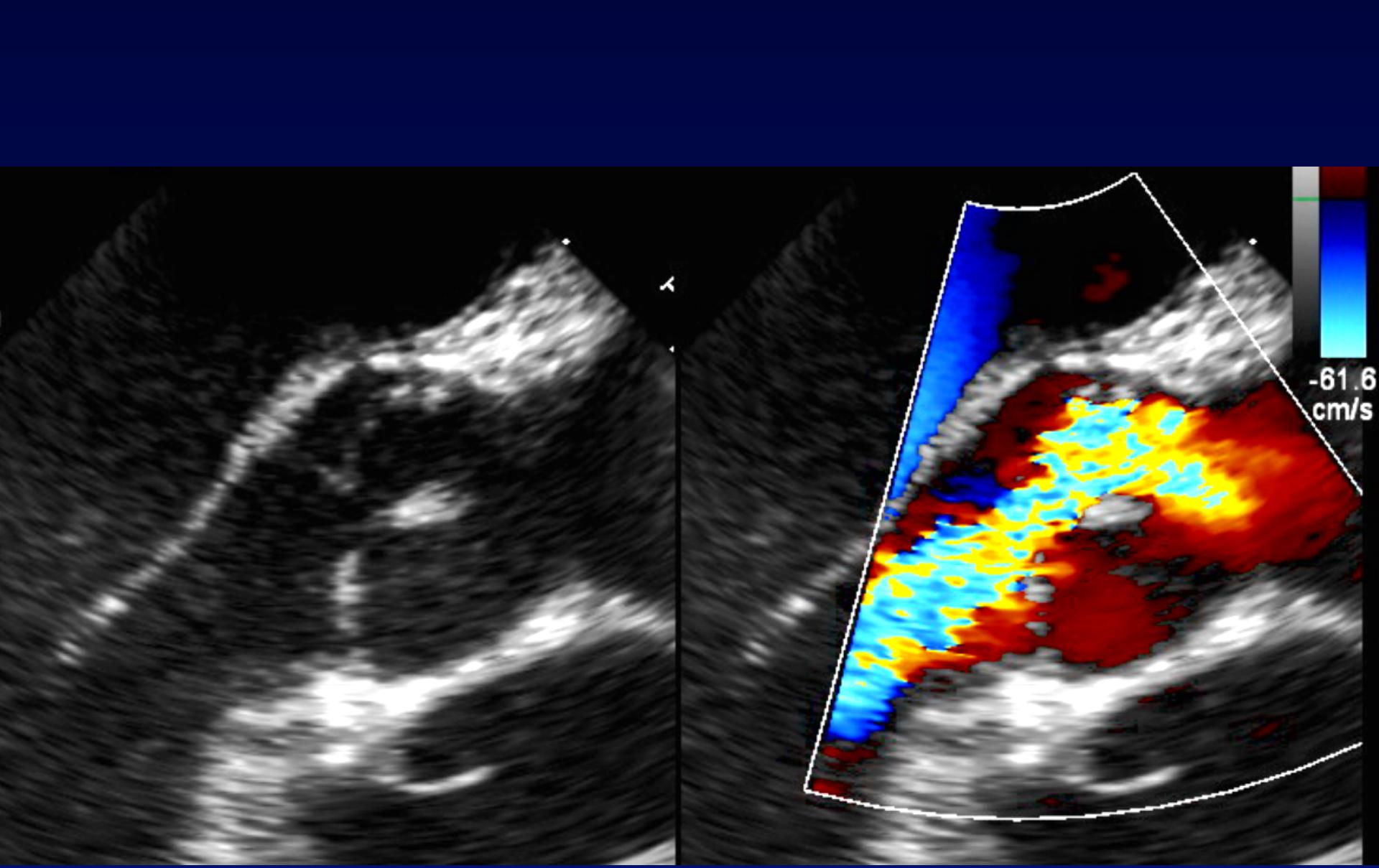
72 bpm

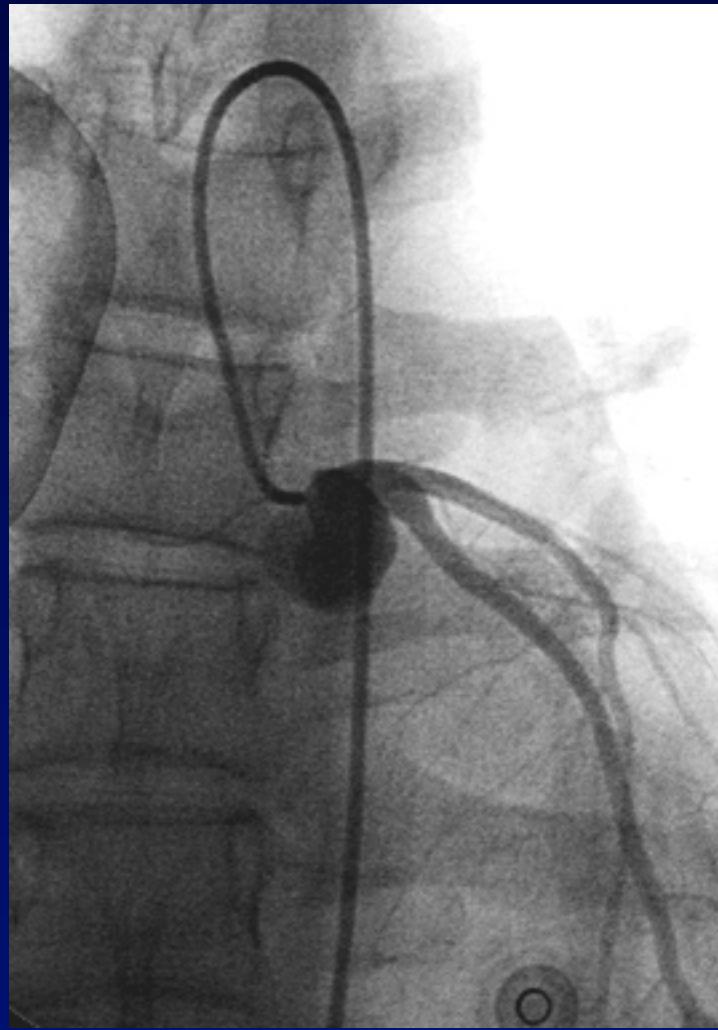
# Anomalous Aortic Origin of the Left Coronary Artery From the Right Coronary Sinus: Diagnosis and Surgical Repair of Intramural Retrovalvular Coronary Artery

Mangesh Jadhav, MD, Andreas Pflaumer, MD,  
Phillip S. Naimo, MD, and Igor E. Konstantinov, MD, PhD

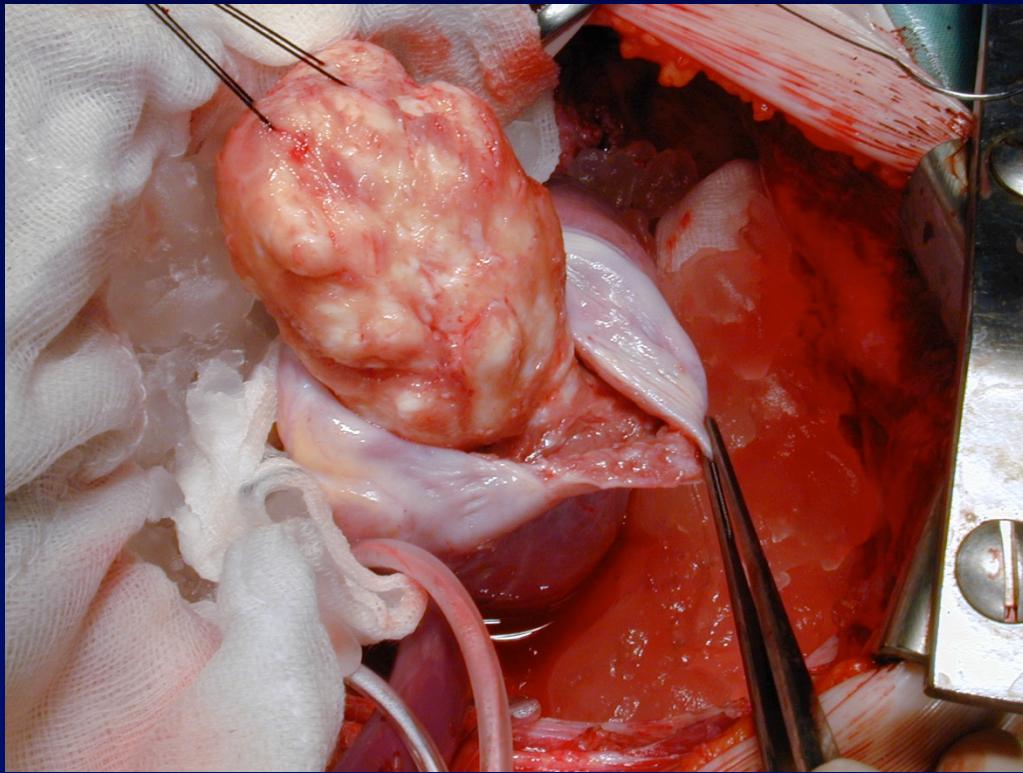
Ann Thorac Surg  
2015;100:2357–9

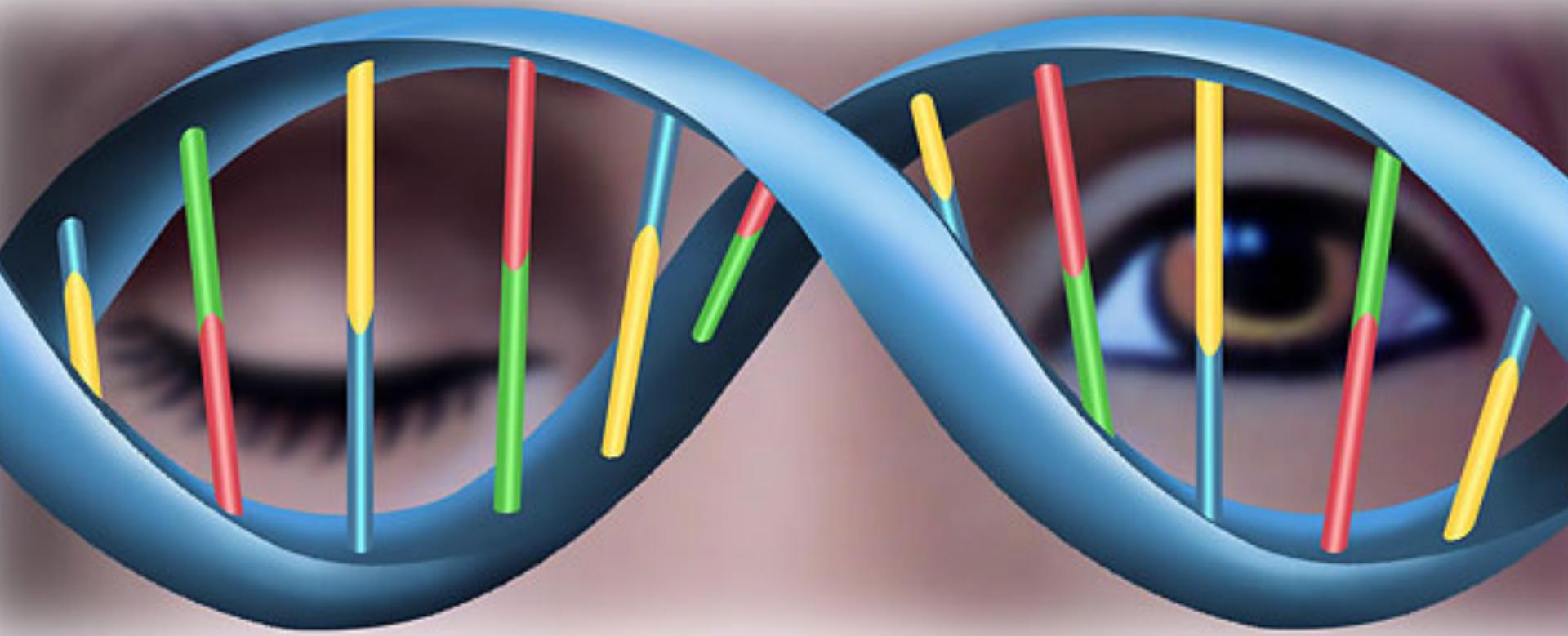




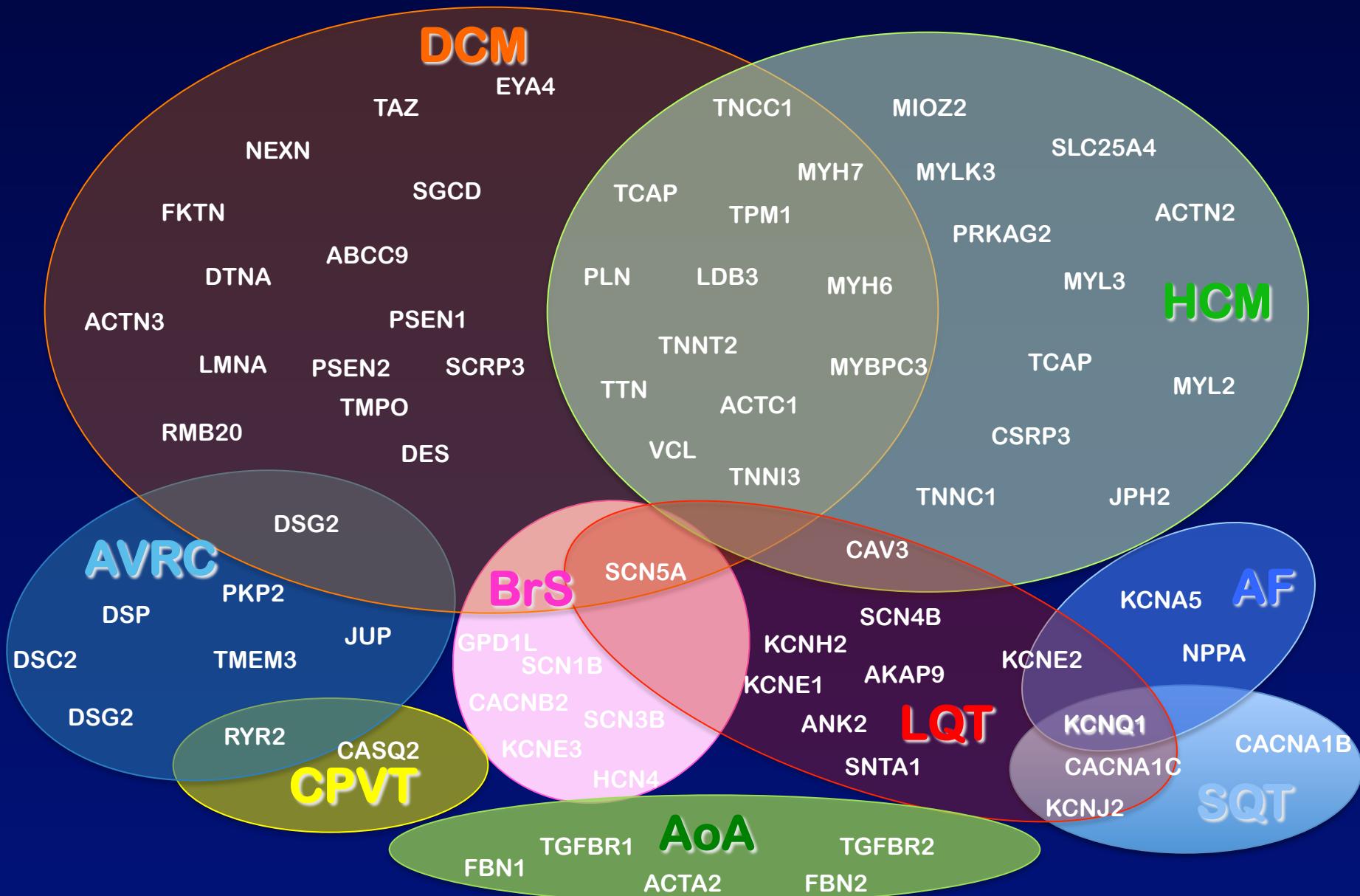




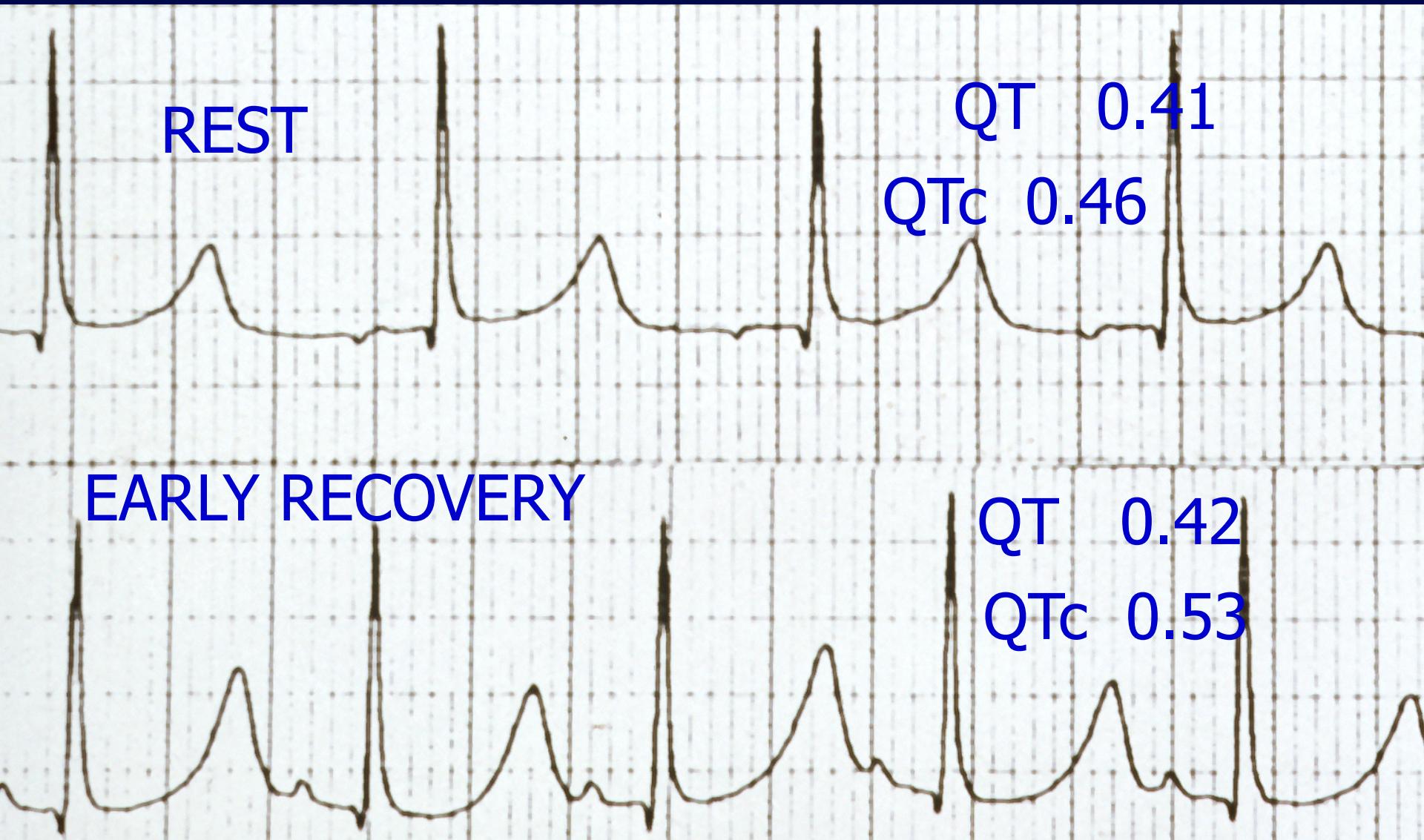




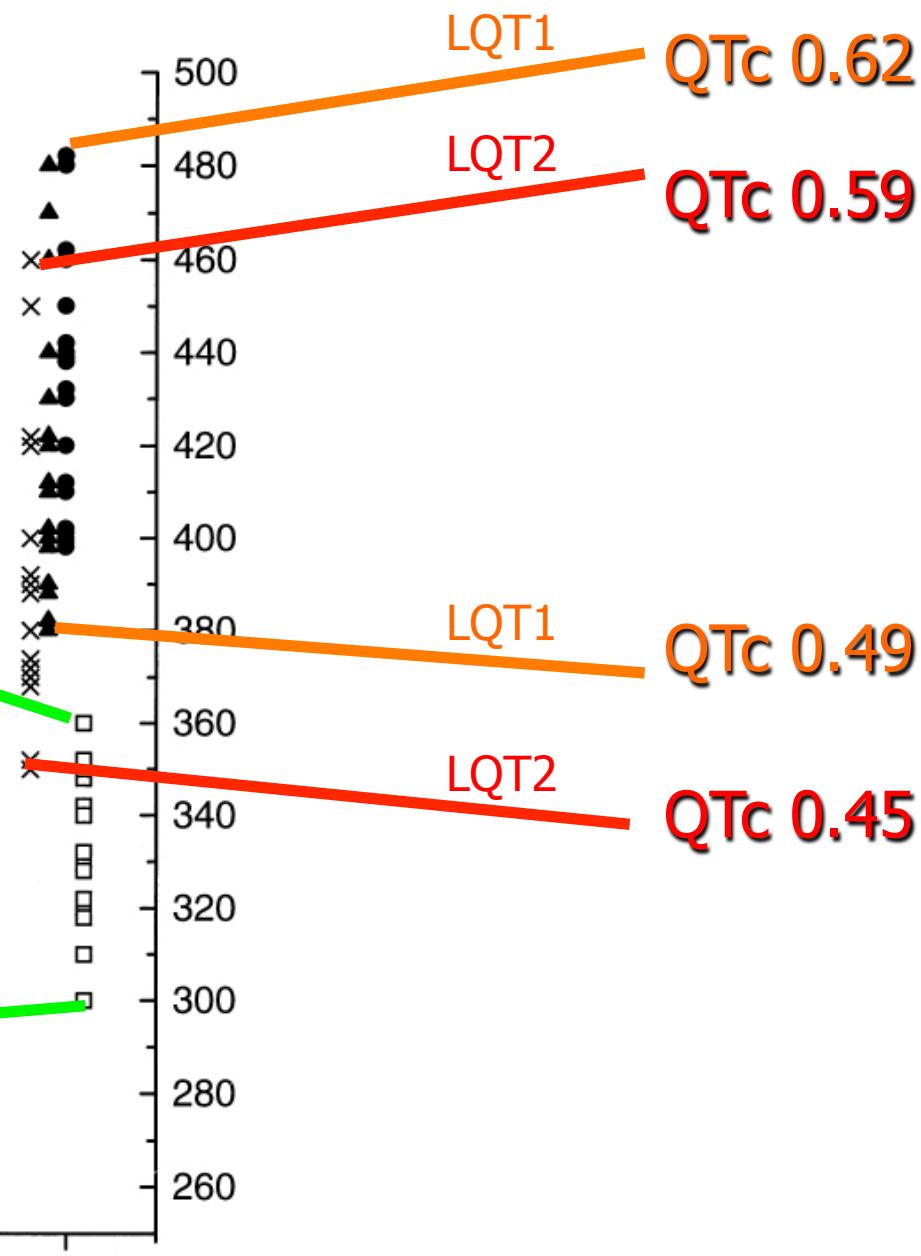
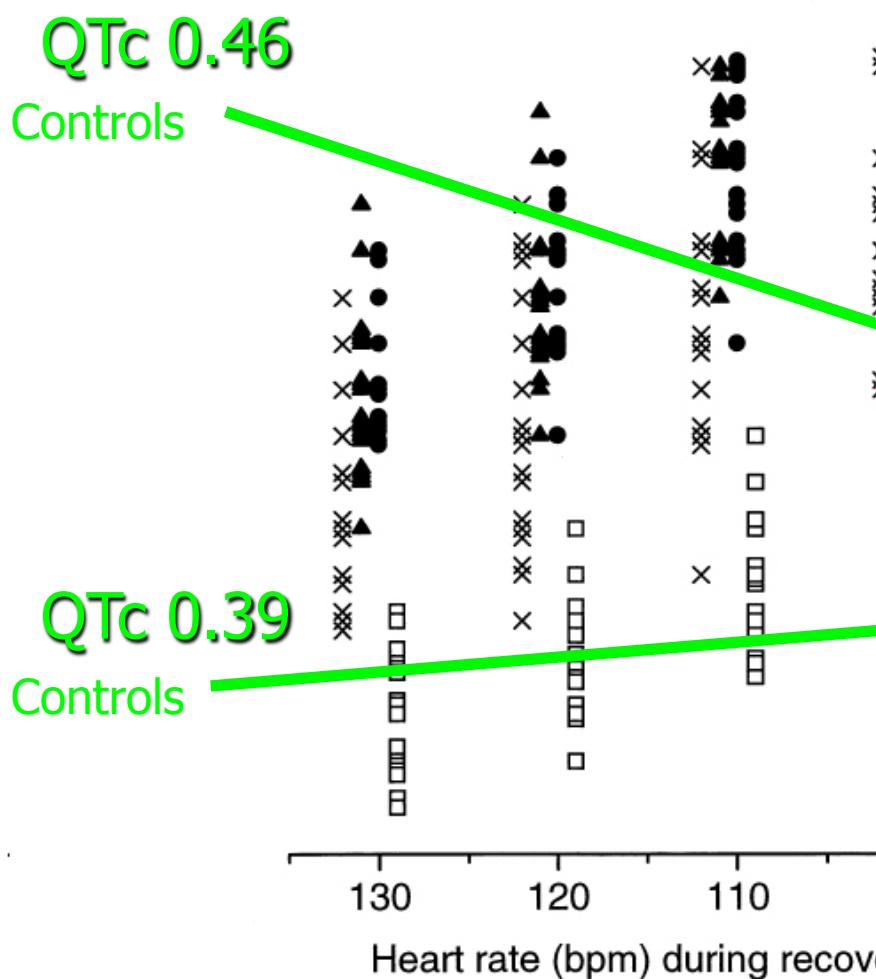
# Genetic Causes of Inherited Cardiac Disease



# Exercise Test



- Controls
- LQT1, pore region
- ▲ LQT1, C-terminal
- × LQT2

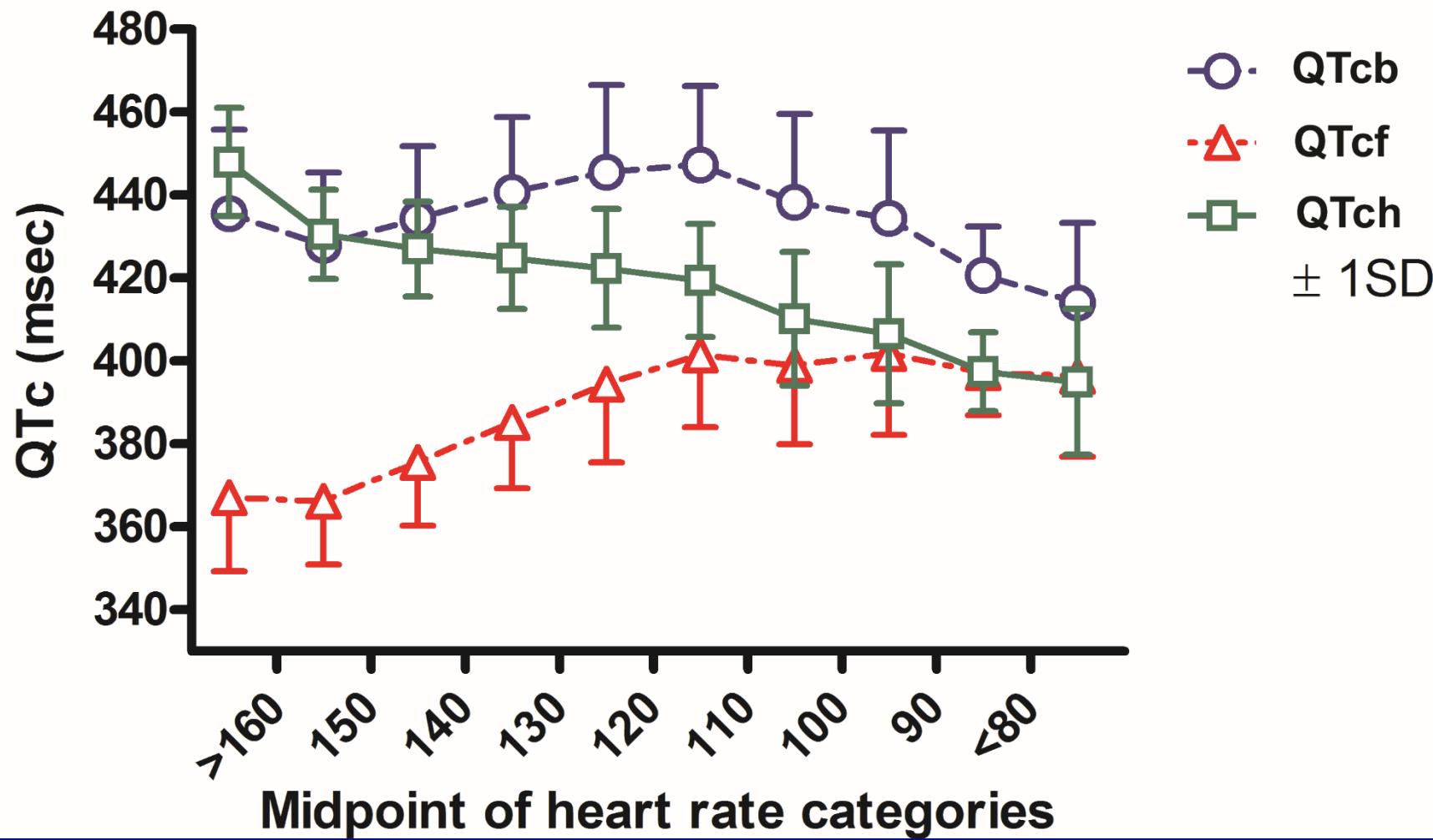


# The QT and Corrected QT Interval in Recovery After Exercise in Children

Circ EP 2

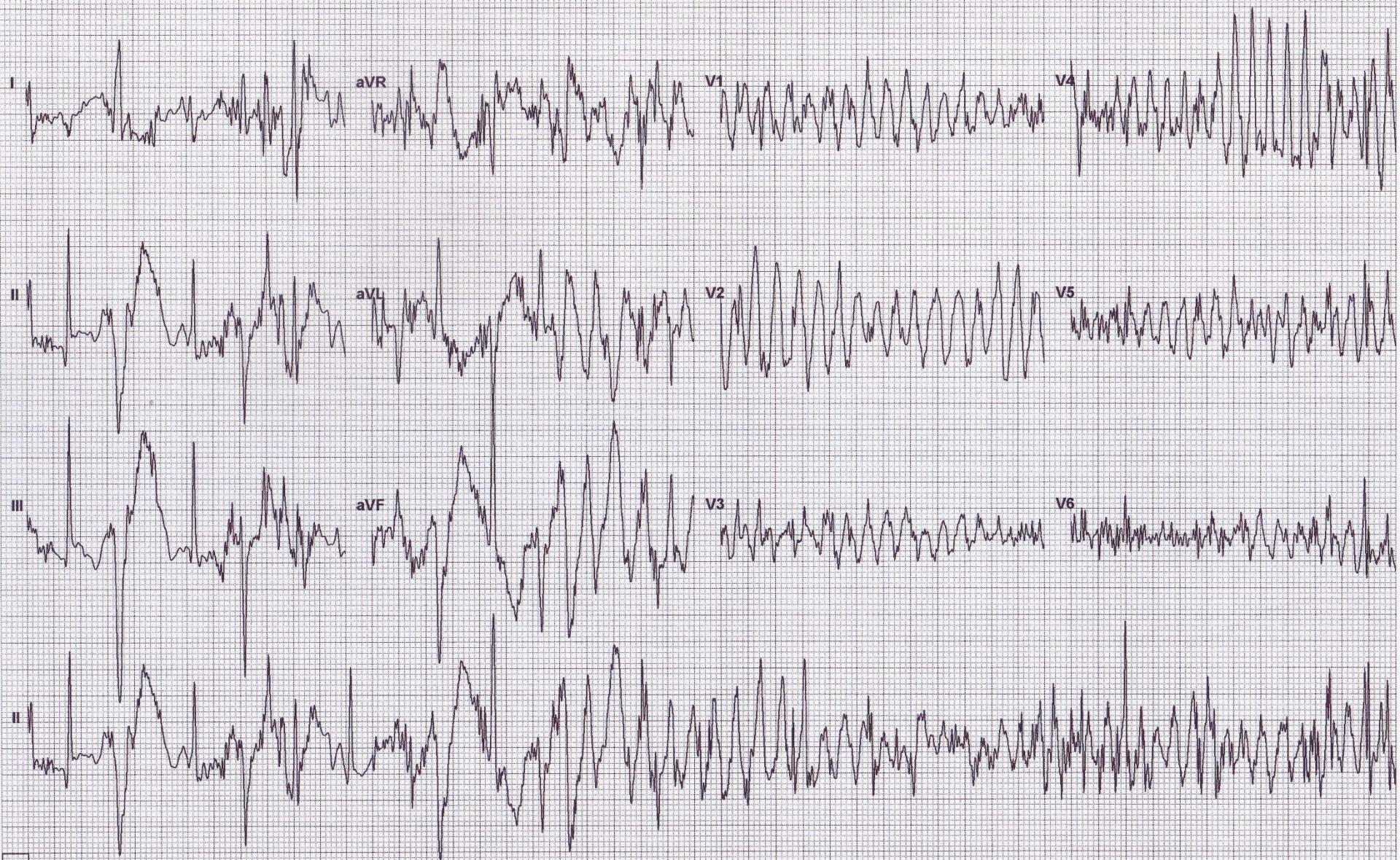
Wouter Rudolph Berger, BSc; Robert M. Gow, MBBS, MMedStats;  
Suleman Kamberi, BAppSc; Michael Cheung, BSc, MB, ChB, MD;  
Katherine Rose Smith, MBiostat, BSc (Hons); Andrew Mark Davis, MB, BS, MD, FFRS

## Recovery QTc vs heart rate



**12 LEAD REPORT**

1082143

Protocol : RCH Bruce  
Stage : Stage 1Stg Time : 00:36  
Exr Time : 00:369.2 km/h  
15.0 % GradeHR : 169  
BP :Date : 26/07/2004  
Time : 15:07:27

10 mm/mV

25 mm/s

Filters: 50Hz WAVESTAR

Cambridge Heart, Inc.

CH 2000

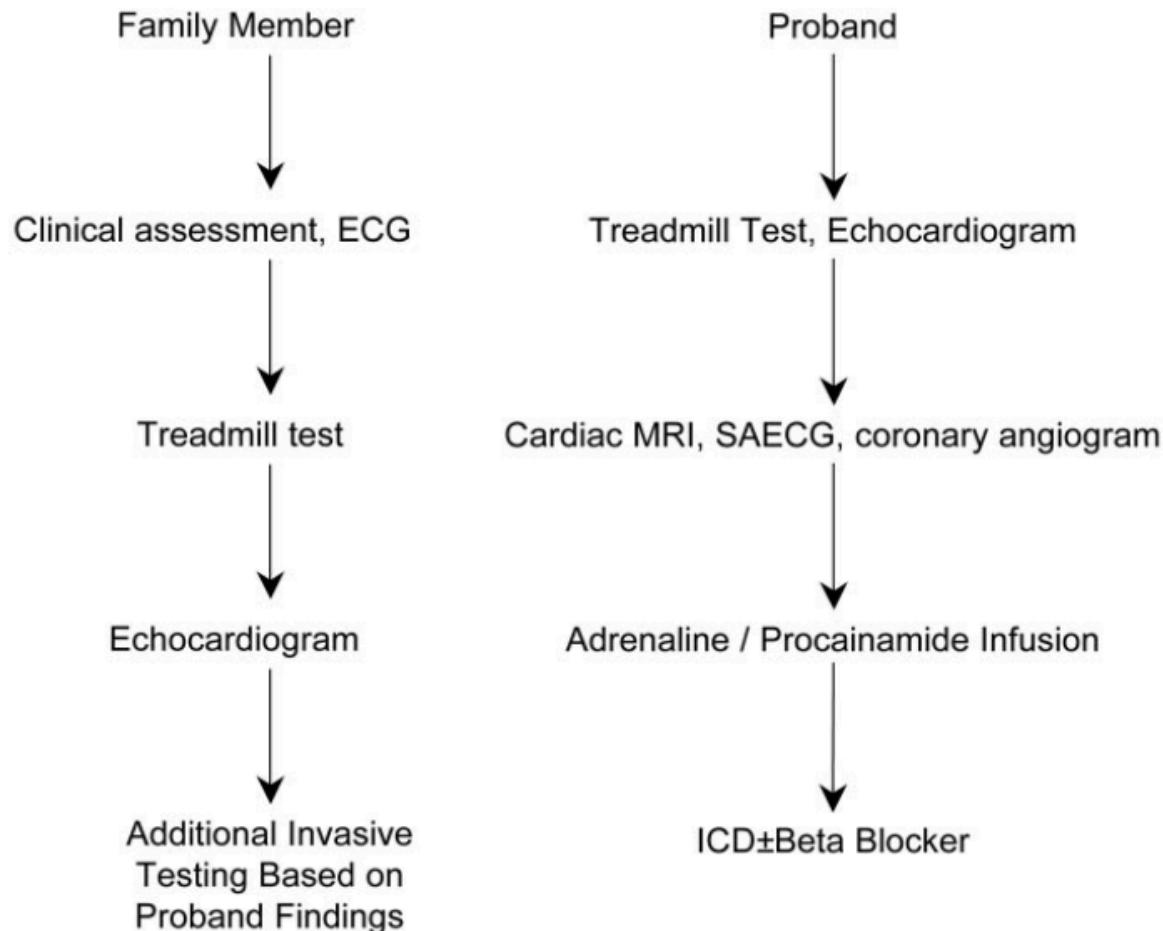
2.0.3

r3r

TURJ0313

# Diagnosis of Unexplained Cardiac Arrest: Role of Adrenaline and Procainamide Infusion

Andrew D. Krahn, Michael Gollob, Raymond Yee, Lorne J. Gula, Allan C. Skanes,  
Bruce D. Walker and George J. Klein



Circulation 2005

**Figure 1.** Schematic illustrating testing in family members and probands with UCA. SAECG indicates signal-averaged ECG. Other abbreviations are as defined in text.

