Misc Cards Scenarios

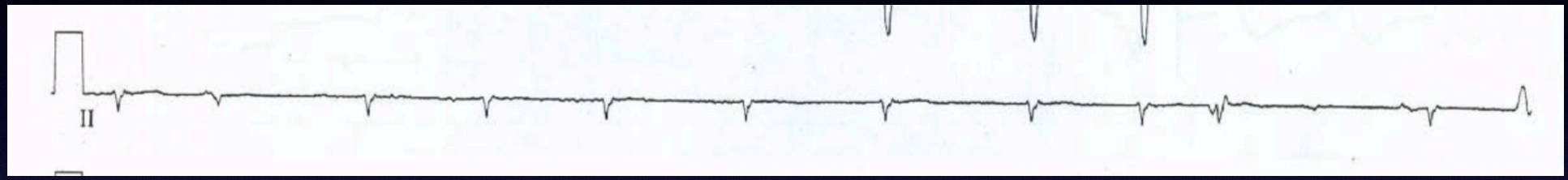
Siuf

“Cardiac Arrest”

- A 60 yo F is bib EMS in cardiac arrest.
- EMS states out of hospital arrest time 15 minutes. Vfib - asystole - PEA. Pt is intubated in the field. CPR in progress.
- What do you do?

“Cardiac Arrest”

- Check the tube / dislodge the tube.
- What is the rhythm?
- Check a pulse.



Now what?

“Cardiac Arrest”

- Pulseless
- Now what?

“Cardiac Arrest”

- Continue CPR / ACLS.
- Do we tPA / tnk?
- Do we sono?

“Cardiac Arrest”

- Why sono?
  - Hs / Ts
- Heart / lungs / ivc?
- Pt may have a pulse that you can’t feel.

“Cardiac Arrest”

- Why lytics?
  - Hs / Ts
- PE / MI

The New England Journal of Medicine

TISSUE PLASMINOGEN ACTIVATOR IN CARDIAC ARREST WITH PULSELESS ELECTRICAL ACTIVITY

Riyad B. Abu-Laban, M.D., M.H.Sc., James M. Christenson, M.D., Grant D. Innes, M.D., Catherina A. van Beek, R.N., B.S.N., Karen P. Wanger, M.D., R. Douglas McKnight, M.D., Iain A. MacPhail, M.D., M.H.Sc., Joe Puskaric, E.M.A.-3, Richard P. Sadowski, E.M.A.-3, Joel Singer, Ph.D., Martin T. Schechter, M.D., Ph.D., and Victor M. Wood, M.D.

100 mg tPA v placebo

Results During the study period, 1583 patients with cardiac arrest were treated and 233 patients were enrolled (117 in the t-PA group and 116 in the placebo group). The characteristics of the patients in the two groups were similar. One patient in the t-PA group survived to hospital discharge, as compared with none in the placebo group (absolute difference between groups, 0.9; 95 percent confidence interval, −2.6 to 4.8; P=0.99). The proportion of patients with return of spontaneous circulation was 21.4 percent in the t-PA group and 23.3 percent in the placebo group (absolute difference between groups, −1.9; 95 percent confidence interval, −12.6 to 8.8; P=0.85).

Conclusions We found no evidence of a beneficial effect of fibrinolysis in patients with cardiac arrest and pulseless electrical activity of unknown or presumed cardiovascular cause. Our study had limited statistical power, and it remains unknown whether there is a small treatment effect or whether selected subgroups may benefit. (N Engl J Med 2002;346:1522-8.)

“Cardiac Arrest”

- tPA doesn’t work, should we give it or not?
- NEJM tPA - 1 survivor, placebo 0, survivor normal
    - The survivor was witnessed by a bystander who did not do CPR.

“Cardiac Arrest”

- Medical decisions and medical literature
  - Don’t be the first, don’t be the last.
  - What do the *other* studies say?

“Cardiac Arrest”

- There are few studies re lytics and cardiac arrest.
- All say no.
- There are many reports re lytics and PEA arrest due to massive PE.
- All say go.

“Cardiac Arrest”

- PEA patients are very different.
  - NEJM study - different baselines, 1 known PE
- AC-ing patients before the CT scan
  - Does heparin make a clot go away?
- RCT of ED thoracotomy v placebo in traumatic arrest d.t. penetrating chest trauma

“Cardiac Arrest”

- What are the downsides?
  - Waste of resources, dead patient in ICU
- What are the upsides?
  - Heroic save

“Cardiac Arrest”

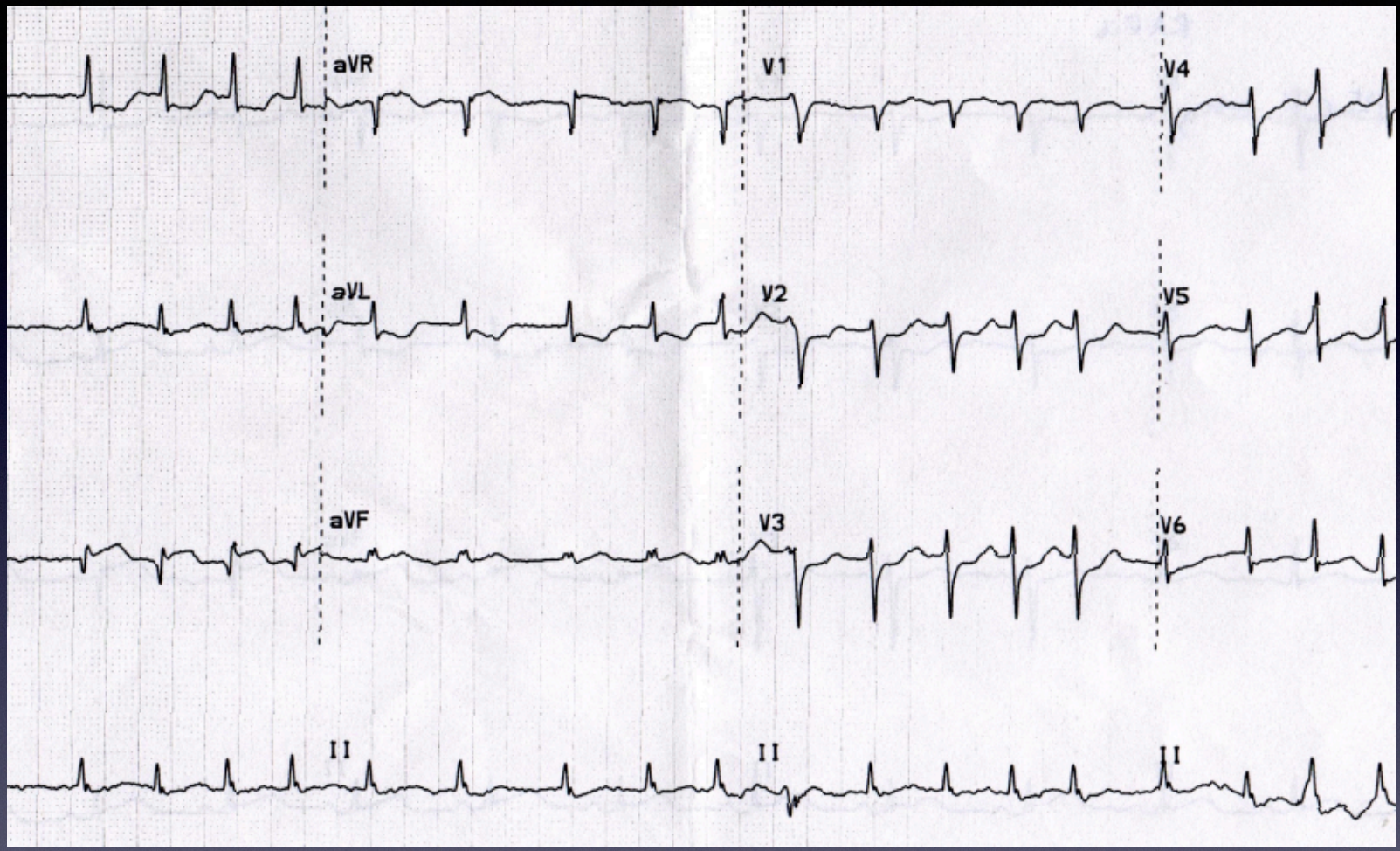
- tPA - 50 mg IVP / over one minute, repeat
- tnk - 30 mg IVP, more if pt is big
- If I think it was a PE, I fire off the tPA.

“Cardiac Arrest”

- What is the difference between PEA and shock?
- Both = +rhythm, weak / no pulse

“Tachycardia”

- A 65-year-old F comes in with SOB
- An EKG is done



BP = 142 / 80. Now what?

“Tachycardia”

- What do you do when dilt and bb don’t work?
- When does dilt and bb make your patient worse?

“Tachycardia”

- The “Spa Approach” never works.
- Dig, amio, procainamide, electricity

CME

A Multicenter Randomized Trial to Evaluate a Chemical-first or Electrical-first Cardioversion Strategy for Patients With Uncomplicated Acute Atrial Fibrillation

Frank X. Scheuermeyer, MD, MHSc, Gary Andolfatto, MD, Jim Christenson, MD, Cristina Villa-Roel, PhD, and Brian Rowe, MD, MSc

Conclusion: In uncomplicated ED AF patients managed with rhythm control, chemical-first and electrical-first strategies both appear to be successful and well tolerated; however, an electrical-first strategy results in a significantly shorter ED LOS.

They used procainamide.

“Tachycardia”

- Procainamide - **18** mg / kg, max 50 mg / min
- Usually takes an hour to go in
- Why I hate electricity
- What are the contraindications to procainamide?
  - SLE, it’s a caine, hypotension, long-ish QT

“Tachycardia”

- What is the purpose of slowing down afib in ED?
- What is the purpose of converting afib in ED?

Benefits of Rhythm Control and Rate Control in Recent-onset Atrial Fibrillation: The HERMES-AF Study

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ABSTRACT

Background: Although rhythm control has failed to demonstrate long-term benefits over rate control in longstanding episodes of atrial fibrillation (AF), there is little evidence concerning recent-onset ones. We analyzed the benefits of rhythm and rate control in terms of symptoms alleviation and need for hospital admission in patients with recent-onset AF.

Methods: This was a multicenter, observational, cross-sectional study with prospective standardized data collection carried out in 124 emergency departments (EDs). Clinical variables, treatment effectiveness, and outcomes (control of symptoms, final disposition) were analyzed in stable patients with recent-onset AF consulting for AF-related symptoms.

Results: Of 421 patients included, rhythm control was chosen in 352 patients (83.6%), a global effectiveness of 84%. Rate control was performed in 69 patients (16.4%) and was achieved in 67 (97%) of them. Control of symptoms was achieved in 396 (94.1%) patients and was associated with a heart rate after treatment $\leq$ 110 beats/min (odds ratio [OR] = 14.346, 95% confidence interval [CI] = 3.90 to 52.70, $p < 0.001$) and a rhythm control strategy (OR = 2.78, 95% CI = 1.02 to 7.61, $p = 0.046$). Sixty patients (14.2%) were admitted: discharge was associated with a rhythm control strategy (OR = 2.22, 95% CI = 1.20-4.60, $p = 0.031$) and admission was associated with a heart rate > 110 beats/min after treatment (OR = 29.71, 95% CI = 7.19 to 123.07, $p < 0.001$) and acute heart failure (OR = 9.45, 95% CI = 2.91 to 30.65, $p < 0.001$).

Conclusion: In our study, recent-onset AF patients in whom rhythm control was attempted in the ED had a high rate of symptoms' alleviation and a reduced rate of hospital admissions.

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Early or Delayed Cardioversion in Recent-Onset Atrial Fibrillation

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Table 2. Cardiovascular Complications during the Index Visit and during 4 Weeks of Follow-up.

Complication	Index Visit*		During 4 Weeks of Follow-up	
	Delayed Cardioversion (N=218)	Early Cardioversion (N=219)	Delayed Cardioversion (N=218)	Early Cardioversion (N=219)
	number of patients			
Admission for heart failure	1	1	0	0
Ischemic stroke or transient ischemic attack	0	0	1	1
Unstable angina or acute coronary syndrome	0	0	3	3
Bradycardia or hypotension	1†	2	2‡	0
Tachycardia	1	1	1§	0

Emergency Department Patients With Atrial Fibrillation or Flutter and an Acute Underlying Medical Illness May Not Benefit From Attempts to Control Rate or Rhythm

Frank X. Scheuermeyer, MD, MHSc*; Reza Pourvali, MD; Brian H. Rowe, MD, MSc; Eric Grafstein, MD; Claire Heslop, MD, PhD; Jan MacPhee, MD, MSc; Lorraine McGrath, ARCT; John Ward, MD; Brett Heilbron, MD; Jim Christenson, MD

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Study objective: Although the management and outcomes of emergency department (ED) patients with atrial fibrillation or flutter have been explored, such studies have typically excluded patients with acute underlying medical illnesses. We seek to describe the ED treatment and outcomes of these complex patients with atrial fibrillation or flutter.

Methods: This retrospective descriptive cohort study used an ECG database from 2 urban EDs to identify consecutive ED patients with an ECG demonstrating atrial fibrillation or flutter from January 1, 2009, to December 31, 2009. We categorized patients with atrial fibrillation or flutter as "complex" according to prespecified criteria and then grouped them as being managed with rate or rhythm control attempts, or not. The primary outcome was safety of rate or rhythm control, measured by whether patients had a predefined adverse event or not. The secondary outcome was the success of rate or rhythm control, defined as rate control decreasing the pulse rate by 20 beats/min and successful rhythm control, both within 4 hours of treatment initiation. Descriptive statistics were used to compare the 2 groups.

Results: Four hundred sixteen complex patients with atrial fibrillation or flutter were identified. Patients managed with rate or rhythm control were similar in all baseline characteristics and illness distribution to patients who were not managed in this manner. The 135 patients with attempted rate control (105) or rhythm control (30) had 55 adverse events (40.7%; 95% confidence interval [CI] 32.5% to 49.5%), whereas the 281 patients not managed with rate or rhythm control had 20 adverse events (7.1%; 95% CI 4.5% to 10.9%), for a risk difference of 33.6% (95% CI 24.3% to 42.5%) and a relative risk of 5.7 (95% CI 3.6 to 9.1). Twenty of 105 patients (19.1%; 95% CI 12.3% to 28.1%) were successfully rate controlled, whereas 4 of 30 (13.3%; 95% CI 4.4% to 31.6%) were successfully rhythm controlled.

Conclusion: In ED patients with complex atrial fibrillation or flutter, attempts at rate and rhythm control are associated with a nearly 6-fold higher adverse event rate than that for patients who are not managed with rate or rhythm control. Success rates of rate or rhythm control attempts appear low. [Ann Emerg Med. 2015;65:511-522.]

Please see page 512 for the Editor's Capsule Summary of this article.

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Brief Report

Cardioversion of pre-excited atrial fibrillation leading to ventricular fibrillation- case report and review of literature

Asaf Danon, MD MSc [a,b,*], Arie Militianu, MD [c], Jorge E. Schliamser [c]

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[b] *Ruth and Bruce Rappaport Faculty of Medicine, Technion-IIT, Haifa, Israel*
[c] *Electrophysiology Unit, Division of Cardiology, Carmel Medical Center, Haifa, Israel*

If you're really unlucky.

“Tachycardia”

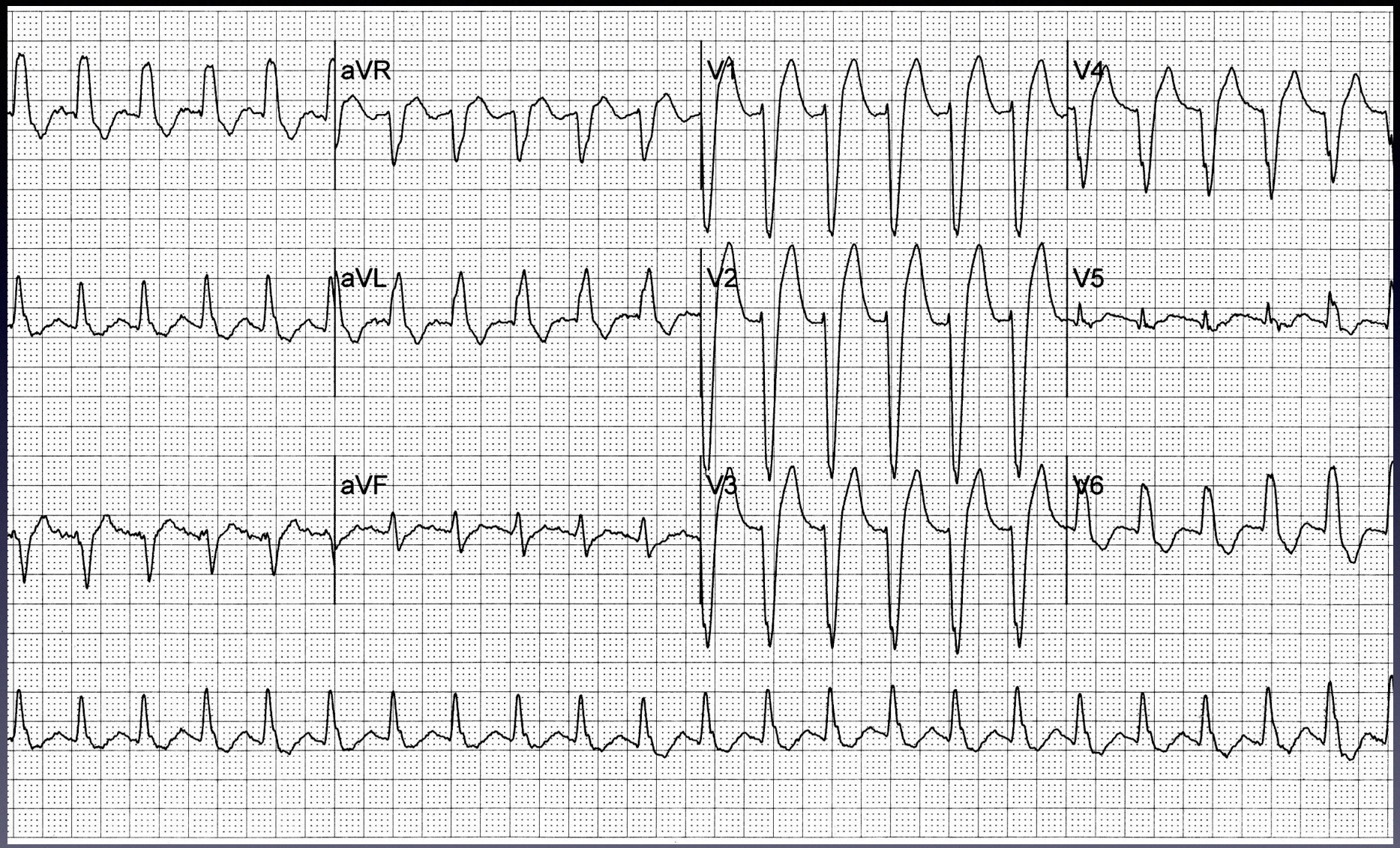
- What’s the other use of procainamide?
  - VTach
  - The hedge drug, along with amino
  - My VT drug is lidocaine.
  - Unlike lido or amio, you can’t push procainamide.

“Tachycardia”

- Do we ever use quinidine in the ED?
  - Can be a substitute for procainamide if patient is allergy to caines
  - Malaria, but this shouldn’t happen in the ED

Tachycardia 2

- It's a busy Monday.
- Medical note is called for patient cc chest pain s/p mvc, HR 145. Pt is under PD custody for suspicion of DUI.



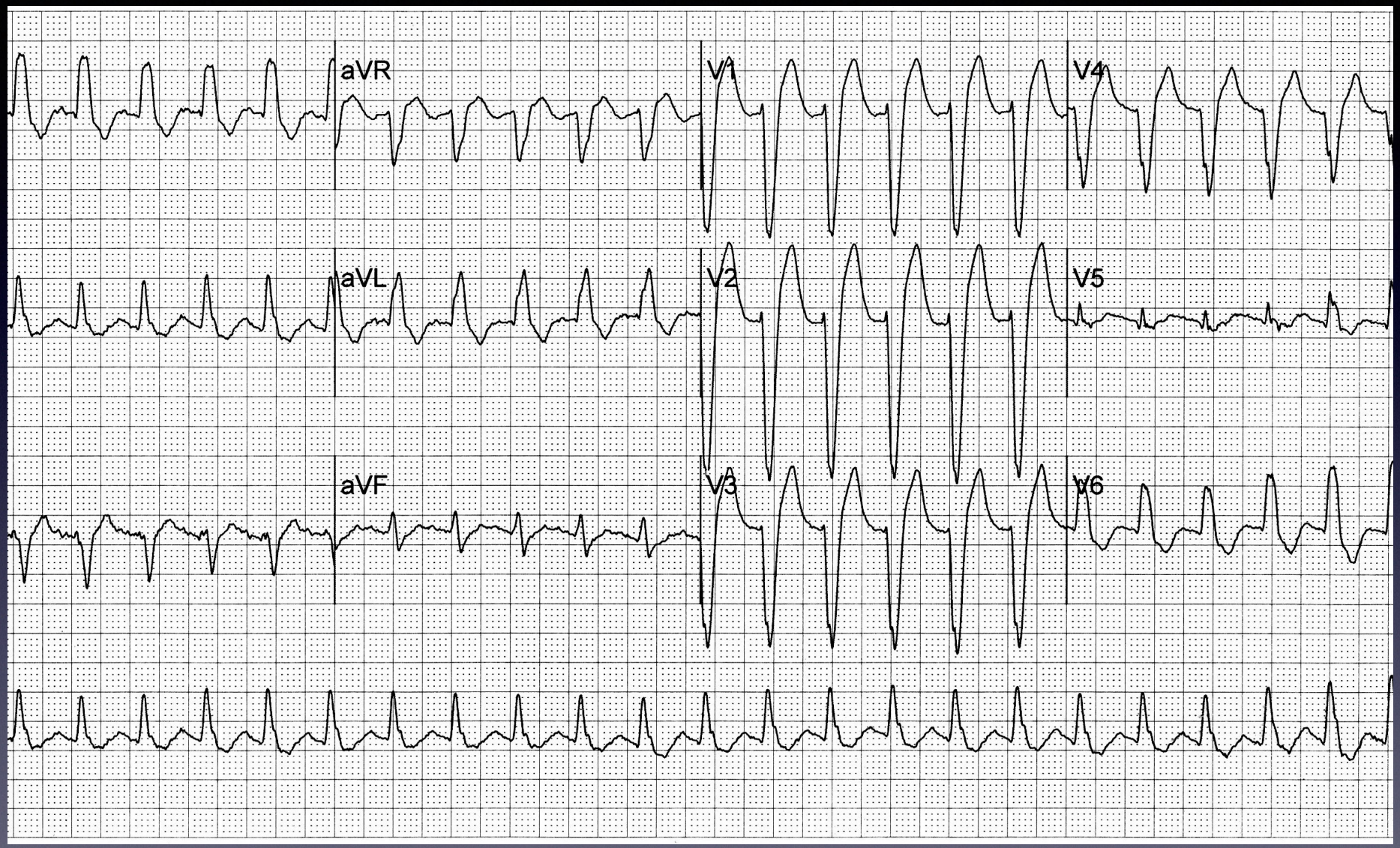
Now what?

Tachycardia 2

- BP is fine.
- What do you do?

Tachycardia 2

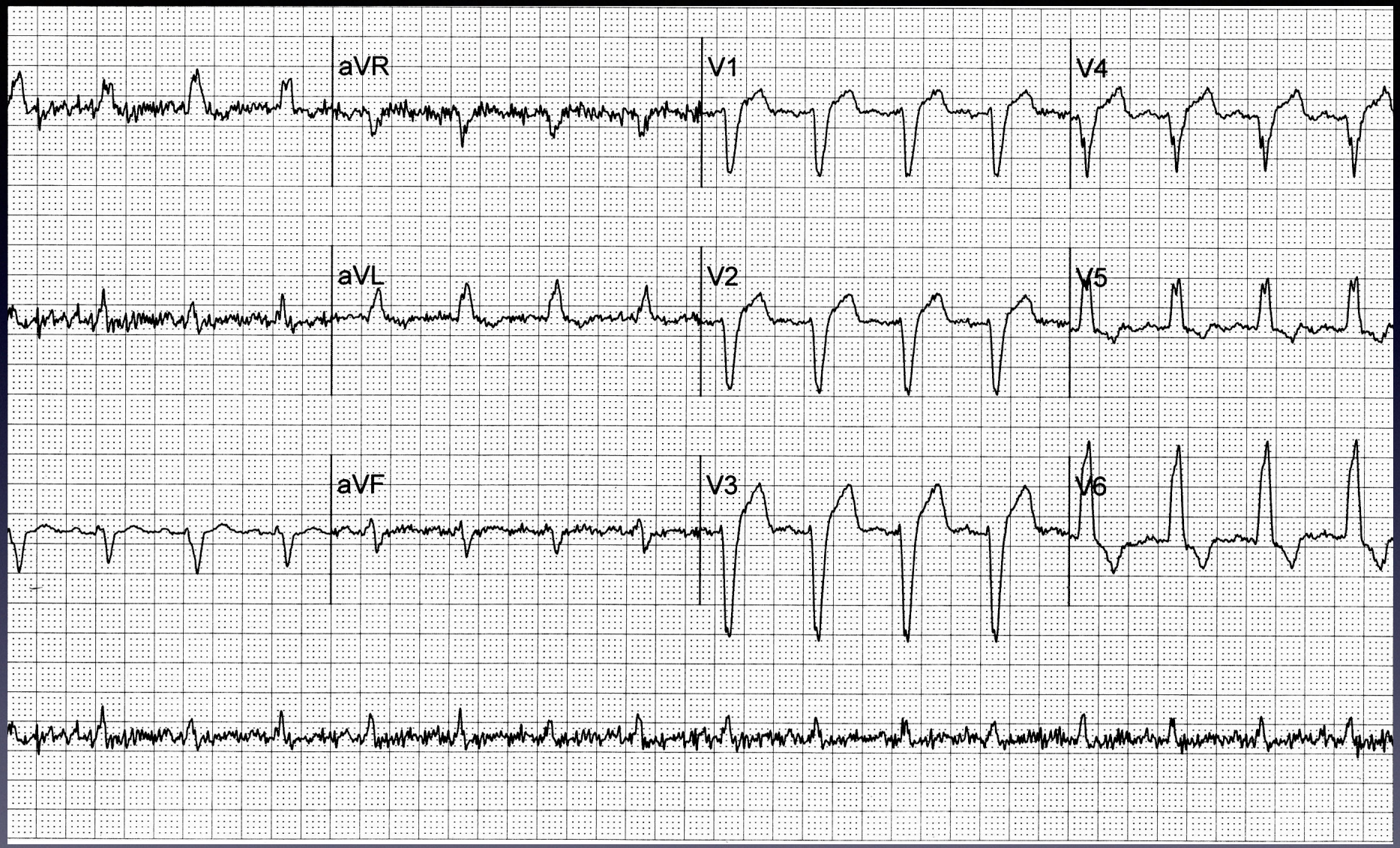
- What are the possible rhythms?
- VT
- Re-entry SVT with aberrancy
- Sinus tach with aberrancy
- Cocaine-related everything
- Rate-related ischemia / aberrancy



Talk about VT criteria, cocaine arrhythmia treatment

Tachycardia 2

- The art of making a dx by doing (almost) nada
- What rhythm fits the clinical scenario?



After 1L NS and essence of time

Tachycardia 2

- Trop negative, slight AG on chem, WBC 20.
- No injuries on exam. No imaging done. Junior did an eFAST for some reason.
- Four hours later, pt signed out AMA and went to central booking.