# Cardiac Electrophysiology Case Presentation

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# H&P

Patient: 33yo male

CC: Lightheadedness

HPI:

- 2-day history of episodic lightheadedness, dizziness
- Episodes persisted without improvement despite hydration/rest/etc
- Presented to PCP the following morning, ECG performed showing tachycardia with rates >200 bpm
- EMS called and brought patient to UNMC ED for further evaluation

# H&P, continued

PMH: Asthma

Meds: Albuterol inhaler prn, Tylenol prn

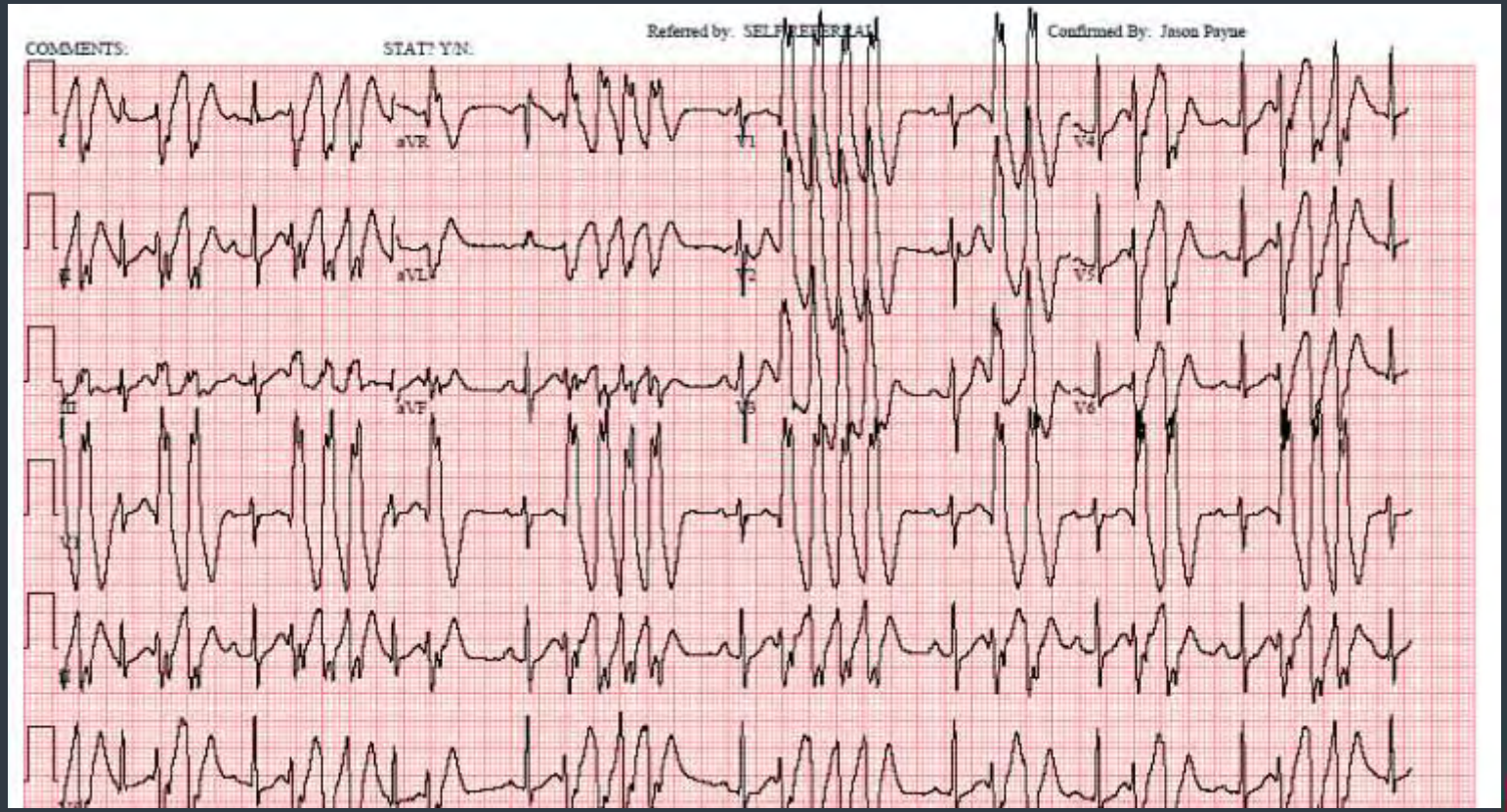
Social Hx:

- Non-smoker. Drinks ~6 beers/week socially.
- Works at local university in sports administration. Officiates basketball, active at baseline.

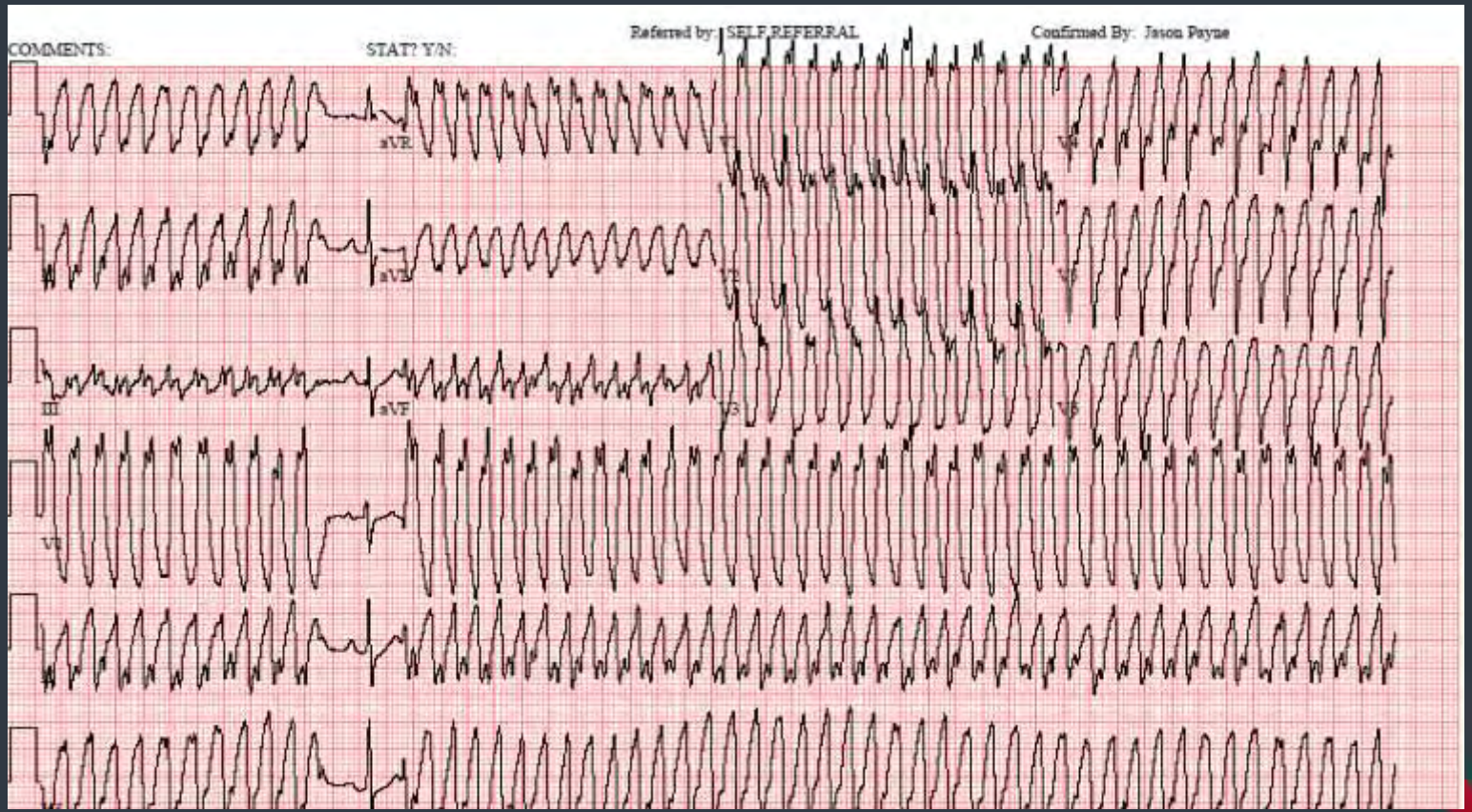
Family Hx:

- Maternal – COPD, MDD. No cardiac history.
- Paternal - unknown

- EP inpatient team curbsided by ED staff due to paroxysms of monomorphic wide complex tachycardia (presenting ECG below)

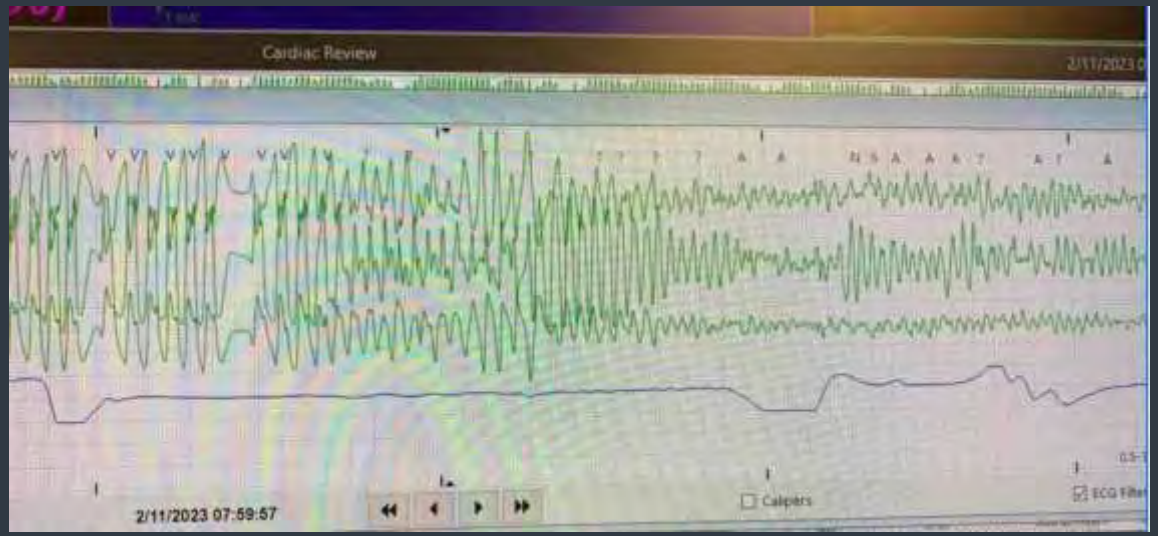


- 2nd ECG from ED, now with sustained tachycardia at ~300bpm. RBBB morphology, northwest axis, transition V3-V4



- He remained awake and normotensive during evaluation
- We suspected rhythm was VT, possibly fascicular origin given morphology and axis of QRS
- Administered IV Procainamide with rapid cessation of tachycardia, admitted for workup to EP inpatient team on Procainamide infusion
- Unfortunately, had recurrence of tachycardia salvos overnight, with increasing frequency of these episodes
- These episodes became incessant despite Procainamide gtt and addition of Amiodarone gtt. He remained hemodynamically stable despite tachycardia.

- The following morning on rounds, the patient's VT degenerated into ventricular fibrillation (with subsequent successful defibrillation)



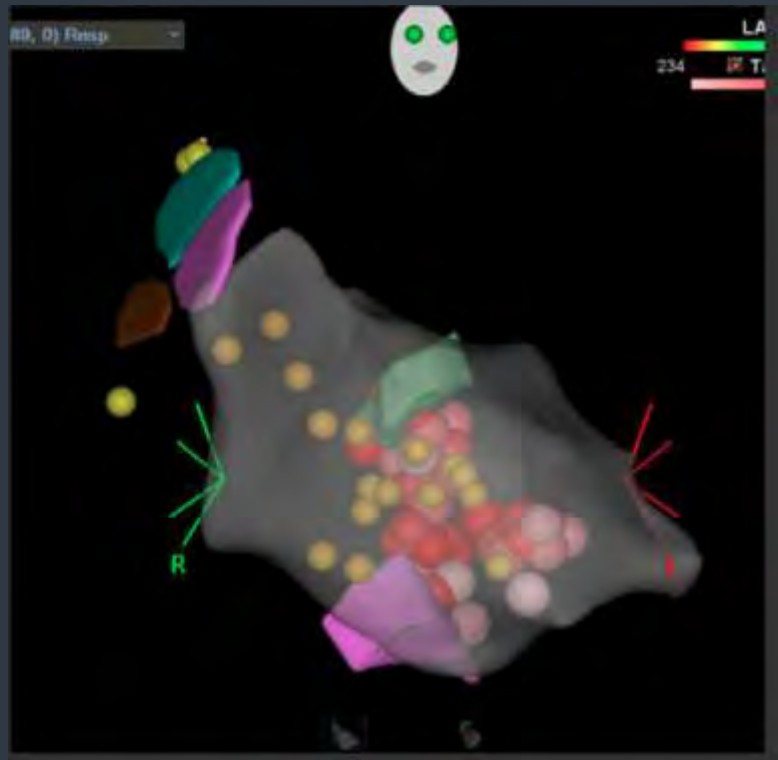

- Transferred to CVICU for closer monitoring. However, he became hemodynamically unstable with continued VT throughout the day.
- Advanced Heart Failure, Critical Care/Anesthesia, and Cardiothoracic Surgery emergently consulted. Patient then cannulated for VA ECMO.

- Continued to have sustained/refractory VT despite multiple infusions (Amiodarone, Esmolol, Procainamide & Lidocaine), sedation/intubation, and stellate ganglion block

- The following day, underwent emergent ventricular tachycardia ablation while on ECMO

- VT localized to the anterolateral papillary muscle with multiple exit sites in both the AL (green structure) and PM (purple) papillary muscles

- Successful VT ablation with no inducibility on post-ablation testing with Isuprel



- Successfully extubated and decannulated from ECMO two days later. No further episodes of VT through remainder of hospitalization.
- Cardiac MRI showed no LGE concerning for underlying disease; EMBx unremarkable for acute pathology
- After long discussion with patient, he declined ICD implantation
- Discharged to home several days later
- 1 and 3 month follow-up in EP clinic: no recurrence of arrhythmia

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