I Just Passed Out! An Evidence Based Approach to Syncope
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July 30, 2015

REMEMBER THIS!

- Near Syncope and Syncope should be worked up as the same entity
- New onset epilepsy is due to Ventricular Tachycardia till proven otherwise

I Just Passed Out! or I Just Nearly Passed Out!

Determine...

Are (were) You in Ventricular Tachycardia?
Are You at Risk for Ventricular Tachycardia?
Practical Approach/Diagnostic Algorithm to Syncope

Step 1: ECG - IS MY PATIENT IN VT?

- This is the only Level A ACEP recommendation in the workup of patients presenting with syncope

REMEMBER THIS → When analyzing the ECG remember “HAVE 2B WISER” mnemonic and look for the following:

H ocm (criteria → high LV voltages with deep/narrow Q waves lateral/inferior if septal hypertrophy; Yamaguchi Syndrome → apical hypertrophic cardiomyopathy → giant T wave inversions without Q waves)

A v blocks

V tach

E psilon wave (criteria → Epsilon wave (most specific finding, seen in 30% of patients) - small positive deflection ('BLIP') buried in the end of the QRS complex; T wave inversions in V1-3 (85% of patients); Prolonged S-wave upstroke of 55ms in V1-3 (95% of patients); Localized QRS widening of 110ms in V1-3 v. throughout as would be in RBB

2B rugada (criteria → coved ST segment elevation >2mm in >1 of V1-V3 followed by a negative T wave) is the only ECG abnormality that is potentially diagnostic. This has been referred to as Brugada sign; Type 2 → saddle back ST segment elevation in V1-V3)

W pw (criteria → short PR, wide QRS, delta wave)

I schemia

S hort QT/Long QT (criteria → short <360 QTC; 330 QT; long QT → QTc>500)

E mboli

R v strain pattern (criteria → P pulmonale, RAD, RBBB, T wave inversions/ST depression V1-V4)

Step 2: IS MY PATIENT AT RISK FOR VT?

- Assuming the ECG does not answer this already (e.g. Long QT syndrome), use the following mnemonic to identify those patients at high risk for VT (and thus, patients who would require admission).

REMEMBER THIS: CHESS PIECES

P remature sudden death (family history)
I ischemic heart disease
E f <35
C cardiomyopathy
E xertional syncope
S structural heart disease

C hf
H ct <30
E cg abnormalities
S ob
S bp <90

- CHESS comes from the San Francisco Syncope Rule. If the patient’s syncope is not associated with any of the following, the risk of adverse outcome is 0.3%

**Step 3: HISTORY**

3 CRITICAL HISTORICAL QUESTIONS TO ASK?

1. Was the syncope exertional?
2. Were you supine when you syncopized?
3. Did the syncope occur at rest?

- If any of these are the case, the patient has a higher likelihood of structural heart disease and this places them in a higher risk group (including for VT).

**Step 4: EXAMINATION**

1. Does my patient have outflow obstruction? → Aortic Stenosis (high risk patient)
   - Listen: Systolic ejection murmur with radiation to the carotids
   - Feel: delayed upstroke in the carotid pulse

**Step 5: ULTRASOUND**

1. Look at the interventricular septum? If enlarged, consider HOCM and get an official echocardiogram
2. Look at the aorta? Is there enlargement of the abdominal aorta (e.g. AAA)?
3. Is there free fluid (e.g. ruptured ectopic)?
Step 6: RUN THIS DIFFERENTIAL DIAGNOSIS

REMEMBER THIS → “I PASSED OUT” mnemonic and look for the following in ALL patients presenting with near syncope/syncope:

I schema/ Insulin

P ulmonary embolus
A v blocks
S ubarachnoid hemorrhage
S tenosis
E ctopic pregnancy
D issection/D rugs (tox)

O bstructive cardiomyopathy
U remia (hemmorhage)
T achydysrhythmias

PEARLS & PITFALLS

REMEMBER THIS!

● New onset epilepsy is due to Ventricular Tachycardia till proven otherwise

ORTHOSTASIS → DIAGNOSIS OF EXCLUSION!!!

● Up to 40% of asymptomatic outpatients older than 70 years of age have positive orthostatic vital signs. Thirty-one percent of syncope patients of all ages have orthostatic vital signs, regardless of the cause of the syncope. In another study, 16% of 2500 people of all ages in a population-based study had orthostatic changes in vital signs.

AGE

● Age is relative not absolute. Risk stratify the patient by determining “does my patient have co-morbidities? → Are they at risk for VT? Refer to the PIECES mnemonic for these (above) in order to determine admission potential.