9/20/26 Morning Report with @CPSolvers

"One life, so many dreams" ***Case Presenter****: Sam Weeks* ***Case Discussants****: Sarah B (@sarahkblaine) & Kirtan (@KirtanPatolia)*

https://clinicalproblemsolving.com/present-a-case/

Scribing (Noah):

CC: 48 y/o M w/ episode of LOC

HPI:

Had been driving, running errands. Very hot outside. AC in the car was not working. While in the red light, overwhelmed by heat. Pulled in to a gas station, next thing that he remembers is waking up on the pavement.

He denies previous episodes, previous medical history.

ROS:

Pain and lacs on the face and hands. Denies lightheadedness, chest pain, SOB, palpitations.

PMH:

No known conditions

Meds:

No meds

Fam Hx:

No sudden death/heart disease/bleeding disorders

Social Hx:

Chef. Rides bikes to work. Previous smoker (10 years ago). 10 to 12 drinks/week. Infrequent psychedelics use.

Vitals: T: 36.8 **HR**: 88 **BP**: 142/80 **RR**: 12 **Sat**: 97% RA

Orthostatics: Negative

Exam: Gen: Well-appearing

HEENT: Lac on face

CV: RRR, holosystolic left sternal border

Neuro: No FND

Extremities/skin: Lac on right hand

Notable Labs & Imaging:

Hematology:

CBC wnl

Chemistry:

BMP wnl Trop 8 to 8 1 hour apart

Imaging:

EKG: 97 npm NSR, left atrial enlargement, LVH with secondary depolarization abnormality, potential old anterior infarct.

CXR: wnl CTh and c-spine: wnl

Telemetry: AVNRT runs with self-termination

Echo: Systolic anterior motion of mitral valve, mild mitral regurgitation, basal interventricular septum 1.9 cm, asymmetric LVH, LVEF 60 to 65% moderate atrial regurgitation.

cMRI: HOCM findings with LGE > 20% (high burden of fibrosis), LVEF 51%, apical LV aneurysm

ICD implantation due to high-risk of sudden cardiac death, referred for genetic testing and advanced therapies (mavacamten).

Final diagnosis: HOCM presenting as cardiac syncope

Problem Representation: 48--year-old man presented with loss of consciousness, found to have holosystolic murmur on LSB, AVNRT on telemetry and cMRI and 2D Echo suggestive of HOCM

Teaching Points (Meghna)

- **Differentials for LOC:**
  1. **Brain - epilepsy, seizure**
  2. **Syncope - cardiogenic, orthogenic**
  3. **Metabolic problem - hypoglycemia, drugs/poisoning (fentanyl)**
- **Need to focus on eliciting patient history - did they have a prodrome? For ex, a vagal reaction. Clinical context? Sitting in the car - not likely orthostatic**
- **Volume status - hot day could indicate they could be dehydrated**
- **Transient LOC (syncope) vs Persistent**
- **r/o causes such as arrhythmia, SVT - an echo could help us r/o these causes**
- **Rare possibilities - carcinoid syndrome**
- **Syncope:**
  1. **Cardiogenic - arrhythmias - holter (ECG could be normal at time of examining)**
  2. **Orthostatic**
  3. **Reflex - situational (cough, valsalva), vasovagal**
  4. **Others**
- **Underlying structural vulnerability -> low pre-load (HOCM physiology) -> autonomic system cannot compensate efficiently**
- **PE - a small one can trigger vagal discharge (vagal nerve innervates a lot of the mediastinum) -> Syncope**
- **Holosystolic murmur on L sternal border - VSD (classic), outflow tract obstruction (HOCM), bicuspid aortic valve, AS, MR**
- **Hypertrophy without HTN - undiagnosed HTN, bicuspid AV (young); Increased afterload - subvalvular, valvular AS**
- **Myocardial involvement - HOCM**
- **Cardiomyopathy - Hypertrophic/Restrictive**
- **AVRC - affect conduction channels; Channelopathy and myopathy can occur together**
- **Arrhythmia - unpredictable - can't break fall - injuries**
- **Existing structural problem -> stressed by heat -> AVNRT -> syncope**
- **Etiology -**
  1. **Genetic (hemochromatosis, sarcoidosis) usually no LVOT - myosin, titin, Fabry's diseases, Danon disease -> earlier ICD implantation**
  2. **Non-genetic - differentiated using Cardiac MRI - patterns**
- **Patient counselled to avoid dehydration (good preload), B blockers if tachycardia (good filling), afterload optimization**
- **LVOT and arrhythmia can co-exist**
- **Anything abnormal cardiac exam - esp in ER - low threshold to order an echo!**
- **R/o fatal causes, even if diagnosis seems obvious - EKG, Troponins**