10/29/20 Morning Report with @CPSolvers

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CC: Unable to walk

HPI: 45 M presents with bilateral leg weakness for 3 years with progression to the point unable to walk in the past 12 hours. Patient has long history of fatigue, palpitation (worse last month), dyspnea numbness in both legs and arms. Denies febrile episodes, chest pain.

In hospital: patient improved with thiamine and vasopressors.

PMH:
None

Meds:
None

Fam Hx:
Born and raised in Brazil. No travel history

Soc Hx:

Health-Related Behaviors:
No drugs. Vaccination are up to date. Alcohol abuse

Allergies:
None

Vitals: **T**: 37.5 **HR**: 130 **BP**: 160/70 **RR**: 43 **SpO_2**: 80%
Exam:
Gen: Acute resp distress and fatigue
HEENT: Elevated JVD, collapsing carotid pulses
CV: Displaced apical impulse at 6th intercostal space, 3rd heart sound, a holosystolic high pitched blowing murmur loudest at lower sternal border that increased with inspiration
Pulm: CTAB
Abd: Mild hepatomegaly
Neuro: Symmetrical peripheral neuropathy
Extremities/Skin: Cold and cyanotic, 2+ pitting edema up to the knees and hyperdynamic pulses

Notable Labs & Imaging:
Hematology:
WBC: 16.5 Hgb: 13 MCV: 110 Plt:60000
Chemistry:
Na: 122 K: 3.5 Cl: 80 CO2: BUN: 10 Cr:1.5 glucose: 225 Ca:11
AST: 110 ALT:60 Alk-P:200 GGT: 1090 T. Bili: 2.6 Albumin: 3.5
Serum osmolarity: 275 PT: 12.8 PTT: 38
ABG ph7.32 PCO2: 9 pO2:155 bicarb:5 lactate: 13

Imaging:
EKG: Tachycardia sinus rhythm
CXR: Cardiomegaly
ECHO: LEVF 75% dilated R and L chambers Tricuspid Regurgitation and pulmonary hypertension
R HEART CATHEterization: Increased cardiac output, increased cardiac index, decreased SVR, increased CVP, increased Pulmonary Arety and Pulmonary wedge pressure
Dx: Wet beriberi

Problem Representation: 45 M presented with bilateral leg weakness and has been unable to walk in the last 12 hours. He suffered of palpitations, fatigue, dyspnea. Dx: Wet beriberi

Teaching Points (Sukriti):
Investigating the Sx: Lower extremity weakness
System 1: "Thinking fast" -- Weakness = Electrolyte imbalance (hypokalemia), Motor + sensory + palpitation + fatigue = Spinal cord lesion, Hypothyroidism
System 2: "Thinking slow" -- Motor pathway -- Motor cortex, internal capsule, brainstem, spinal cord, peripheral nerves, NMJ, muscle

Collecting clues:
1. **Identifying heart failure through the signs elicited on PE**: JVD, S3, displaced apical impulse
2. **What doesn't fit?** Wide pulse pressure and neuropathy

Reconciling the wide pulse pressure: capacity of a circulatory system = tone x myocardial strength; Pathologic vasodilatory states increase PP

3. **What explains the high output cardiac failure?**
   a. Volume overload
   b. Increased blood viscosity

Thiamine deficiency > Micro/macro AVMs (genetic, post traumatic, iatrogenic)

Framing a hypothesis: Acute severe high output cardiac failure + Macrocytosis + Hypercalcemia
Hiccum's dictum: Alcoholic cardiomyopathy + Hypothyroidism
Acute life threatening cardiomyopathy -- (Inside to out) Valve rupture, Ischemia, pericardial effusion + 3T's Takotsubos, (hyper)Thyroidism, Thiamine deficiency
Clinical pearl: Thiamine deficiency cardiomyopathy worsens with diuresis