03/04/21 Morning Report with @CPSolvers

***Case Presenter**: (@coldestdayonme Gabriel Talledo) **Case Discussants**: (@AzeemRathore_) and Shannon McGue*

CC: 37 y/o F with SOB and confusion

HPI: 3 months ago started with productive cough white sputum, fever 39 C. Given levofloxacin for CAP but it didn't improve. Cough persisted along with fever, dyspnea. Lost 10kg during this time.. Found to be diaphoretic and thirsty in the ER upon presentation.

PMH:
None:

From Venezuela and moved to Peru recently

Meds: none

Fam Hx: None

Soc Hx: None

Health-Related Behaviors:

Allergies:None

Vitals: **T**: **39 C** **HR**:126 **BP**: 90/60 **RR**: **SpO_2**: 88%
Exam: BMI 17
Gen: Thin, pale, and Diaphoretic
HEENT: ulcer in mouth
CV: normal
Pulm: crackles diffusely in all lung fields
Abd: normal
Neuro: GCS 13/15 no focal deficits, no meningeal signs
Extremities/Skin: erythematous rash to chest and nodular rash to LE that were reddish in color

Notable Labs & Imaging:
Hematology:
WBC: 1.9 Hgb: 4.9 Plt: 150

Chemistry:
Na: 140 K: 4 Cl: 133 Albumin: 2.1

Blood Cx: neg
Urine Cx: Neg
TB: Neg
HIV: Positive: CD4 14

Imaging:

CXR: Bilateral diffuse reticulonodular opacities

Bone Marrow Biopsy: macrophages with budding yeast seen reflective of histoplasmosis

Problem Representation: 37F with 3 mo productive cough with fever, SOB, resistant to Abx and WL p/w SOB, confusion and thirst, f/t/h erythema nodosum and bilateral diffuse reticulonodular opacities on CXR, HIV pos (CD4 14), with BM biopsy confirming final Dx of histoplasmosis.

Teaching Points (Priyanka):

- **Investigating the Symptoms:**
  - **SOB and confusion:** layer on pmh, pt age to the broader schema → same disease, cause and effect, two organs affected?
  - **Increased thirst**→ most commonly physiologic response to illness (1 polydipsia) vs pathologic response to solute/ water loss (due to lack of ADH ie: Diabetes insipidus)
- **Localizing the symptoms:** Cough→ localizes to the lungs > heart but pulm edema, anatomical structures can localize to the heart. Inflammation (iMADE: weight loss, fever) further localize to the lungs
- **Collecting clues**: ulcer, erythema nodosum, rash to chest→ background of autoimmune dz with insult vs infectious?
  - **Erythema nodosum:** medications (abx, birth control), post strep, autoimmune (sarcoid, IBD, Behcet's), infectious (granulomas-mycobacterium, endemic mycoses), malignancy
  - **Reticulonodular Opacities on CXR + crackles**- infectious vs more chronic ILD
- **Hypothesis: Acute infectious granulomatous dz with propensity for upper airway, skin and BM:** bacterial for lung and skin (TB, nocardia), fungal (histo)
  - **Other signatures of granulomatous dz**→ Sporothrix- skin, joint; blasto- skin joint, brain; paracocci (M>F), upper air, cocci- bone, meninges, skin; histo- adrenal, BM, GI, disseminated