09/10/21 Morning Report with @CPSolvers

***Case Presenter**: Catherine Wegner Wippel (@WegnerWippelMD) **Case Discussants**: Reza Manesh (@DxRxEdu) and Rabih Geha (@rabihmgeha)*

CC: Subjected fever, shortness of breath and fatigue for 10 days.

HPI: 53 year-old woman presents with subjected fever, exercised-induced shortness of breath and fatigue for the last 10 days. She denies cough. Temperature was around 99F over the last few days.

PMH:
B cell ALL 11 months prior treated with 4 cycles of R-hyperCVAD pre BMT
Received BMT
AKI due to rituximab - recovered renal function
Persistent pancytopenia

Meds:
Acyclovir
Tacrolimus
Penicillin VK
Levaquin
Posaconazole
Pentamidine

Fam Hx: not relevant

Soc Hx: not relevant

Health-Related Behaviors: not relevant

Allergies: not relevant

Vitals: **T**: 99 **HR**: 90 **BP**: 100x60 **RR**: 22 **SpO_2**: 92
Exam:
Gen: conjunctival pallor
HEENT/CV/Abd/Neuro/Extremities/Skin: normal
Pulm: crackles on left lung basis, bronchial sounds on the left upper lung

Notable Labs & Imaging:
Hematology:
WBC: 1.2 (0.82 Neutrophils) Hgb: 6.8 Plt: 32,000
Chemistry:
Na: 132 K: 4.5Cr: 1.2 Mag:1.8 ANA negative /Tacrolimus 3.2 (low) (5-15 normal)
Infectious workup (all negative):
Blood cultures (fungal and bacterial)/ Gram stain/fungal smear/culture, urine Legionella and Strep antigens/Bronchoscopy sent for fungal culture, Legionella culture, Aspergillus, Nocardia, Histoplasma. Galactomannan and D-glucan negative /CMV PCR negative/ Adenovirus PCR: negative
Imaging:
Chest CT: consolidation in the left lower lung with a patchy consolidation in left upper lung.
BM biopsy: normal
Hospitalization course:
She was admitted to the hospital and started of cefepime, azithromycin for 3 days. She deteriorated, sent to ICU, worsening respiratory status.
Repeat chest CT and angio workup: negative for pulmonary embolism,, consolidation spread to the right lung. No fluid overload, no response to furosemide. She was started on solumedrol. Stable for a week, oxygen need increased, so she was intubated. 2 new bronchoscopies: culture/infectious workup all negative. Biopsy bronchoscopy: imaging of fibrosis, no pathogen. Receiving ganciclovir, vancomycin.

Final diagnosis: Idiopathic Pneumonia Syndrome - treated with etanercept

Problem Representation: 53 yo immunocompromised patient and PMHx of ALL and BMT presents with subacute fever and SOB with negative workup for infectious diseases and refractory treatment to steroids.

Teaching Points (Kiara):

- **Fever:** Real? Assume it is. Can translate into subacute inflammation → Rule out infection → Cancer, autoimmune. Vital signs may not be helpful.
- **Dyspnea**: Thorax, extrathoracic. PNA > Cardiac inflammation/infection.
- **Inflammation:** **W**ho (RF): Immunosuppressed leading to more and severe infections, **W**hat (Clinical Sd), **W**here (Epidemiology), **W**hen (Time Course).
- **Immunocompromised patient:** If a cancer patient, consider a relapse, drug toxicity, opportunistic infection- CMV, graft vs host (lung, GI, skin).
- **Crackles**: Prioritize pus in immunocompromised patient. Possible etiologies:,Adenovirus, parvovirus, CMV, VZV, CMV, TB, non-specific bacteria, Pseudomona, PJP, endemic mycoses, Aspergillus (molds), Mucor, Strongy.
- Anemia (Hb): Palm <6, Conjunctival pallor < 10.

- **Collecting clues:** Severe immunocompromised pts can have serologic test negative. After ruling out infection (PCR/tissue samples) think about graft vs host disease.

- Steroids can be used as dx clue for inflammation, but infections will worsen with it. Exception of the rule is a chronic inflammatory process that became refractory.