02/8/24 Morning Report with @CPSolvers

"One life, so many dreams" ***Case Presenter****: Abeer Mosleh* ***Case Discussants****: Rabih Geha (@rabihmgeha) and Lea(@xLea_B)*

CC: 77 year old female- difficulty breathing since 1 day.

HPI: 1 week history of productive cough, one day of fever and breathless when trying to take a deep breath.. Also notes pleuritic Chest pain (worse with coughing), green sputum, no history of recent chills, night sweats, hemoptysis, orthopnea, PND, abdominal pain, nausea, vomit, bloating, changes in bowel habits. No rashes, lesions / changes in skin color.
Admitted as case of disseminated VZV last month - persistent weakness and loss of appetite ever since.

PMH:
Malignant thymoma (resected in 2022), myasthenia gravis, Asthma, Severe COVID 19 (hospitalized numerous times)
Disseminated VZV

Meds: Nebulizer as needed

Fam Hx: NA

Soc Hx: NA

Health-Related Behaviors: NA

Allergies: NA

Vitals: T: 37.9ºC **HR:** wnl **BP:** wnl **RR:** wnl ; SPO2 - 88% RA, needed 3L nasal cannula.
Exam:
Gen: Fatigued and tachypneic.
HEENT: wnl
CV: wnl
Pulm: Diffuse wheezes, right sided wheezes.
Abd: wnl
Neuro: wnl
Extremities/skin: Mild lower limb edema.

Notable Labs & Imaging:
Hematology:
WBC: 11,000 Hgb:11 ; MCV - 88 Plt: 250
CRP - 24
Chemistry:
Na: wnl K:wnl Cl: wnl HCO3:wnl BUN: wnl Cr: wnl glucose: wnl Ca: wnl Mag: wnl
AST: wnl ALT: wnl Alk-P: wnl Albumin: wnl
Sputum culture: Strep pneumo +
Patient was admitted to identify cause of repeated pneumonias, immunology consult: HIV (-), HTLV-1 (-)
IgG - 215 (low), IgA - 43(low), IgM - 24(low), Immunophenotype - low score of lymphocytes (10%) with abnormal ratio of B-T-NK cells
CD19, 20 - 2%, Abnormal ratio of CD4: CD8 - less than 1
Imaging:
CXR: (As seen in presentation)
CT Chest: (As seen in presentation) : Lung Infiltrate R> L (small pleural effusion)

Dx: Considering thymoma and thymoma resection, combined with the recurrent infections and lab evidence of decreased immunoglobulin levels, her final Dx was consistent with **Good Syndrome.**

Problem Representation: A 77F with PMH of recurrent COVID pneumonia, and disseminated VZV presented with shortness of breath, productive cough and pleuritic chest pain.

Teaching Points (Marino):

- **Dyspnea:** look for onset. The faster the onset, the quicker we have to make an intervention.
- Everytime a patient presents with difficulty breathing, we must look for objective findings: is it with exertion or not? We also should inquire about the baseline to differentiate between acute and subacute. "Tell me what you were able to do and accomplish two days ago?"
- Dyspnea + productive cough + pleuritic chest pain makes us think about a pulmonary problem - even though the patient doesn't have a fever, we cannot rule out an infectious disease yet.
- Disseminated zoster is rare - this really makes us think about an immunocompromised state. Take into consideration the medications, age, vaccination history or chronic conditions such as diabetes, cirrhosis and COPD to look for a trigger for immunosuppression.
- **Immunodeficiency**: extracellular (bacteria/mold) vs intracellular (virus/granulomatous diseases). If lymphocytes are depleted, more prone to intracellular infections, if neutrophils are depleted, think more about extracellular organisms. Sometimes, patients could have both, and the most common condition that causes this is HIV: impaired B-cell signaling + lymphocyte depletion.
- **Hypogammaglobulinemia:** Common Variable Immunodeficiency (CVID) is a diagnosis of exclusion, but it is still the correct reflex in a patient with low immunoglobulins. We must rule out other conditions before. Look for medications (steroids, rituximab), malignancy, or protein loss (burns, enteropathy).
- **Good syndrome:** thymoma + combined B and T cell immunodeficiencies. Good syndrome doesn't improve with thymectomy - treat with IVIG.