08/05/21 Morning Report with @CPSolvers

Case Presenter: *Gabriel Talledo (@gabrieltalledop)* ***Case Discussants***: *Mario Suito (@mariosuitofmd) and Promise Lee (@Promiseflee)*

CC: Dyspnea

HPI: 45 yo M
Worsening SOB and low grade fevers 2 w before w/ lower extremity edema and orthopnea.

Never presented theses symptoms before and denies chest pain.

PMH: Metastatic melanoma to the lungs, received 4 cycles of immunotherapy. Last cycle 2w ago.

Meds:

Fam Hx:

Soc Hx:Live w/ his wife.

Health-Related Behaviors: No smoke, recent travels or illness. No sick contacts.

Allergies:

Vitals: **T**: 38C **HR**: 110 **BP**: 100/60 **RR**: 18 **SpO_2**: 90% on room air
Exam:
Gen:
HEENT:
CV: Bilat basilar rales, nl S1 and S2, S3 gallop. Elevated JVP.
Pulm:
Abd:
Neuro:
Extremities/Skin: 1+ pitting edema around ankles.

Notable Labs & Imaging:
Hematology:
WBC: 15 000 Hgb: Plt:

Chemistry:
Na: K: Cl: CO2: BUN: Cr: glucose: Ca: Phos: Mag:
AST: 70 ALT: 65 Alk-P: T. Bili: Albumin: ESR: 40 CRP:20 Trop I: 5

Imaging:
EKG: Sinus tachycardia.
TTE: LVEF 30% , global longitudinal strain 10%, global hypokinesia, estimated RV systolic pressure of 40 mmHg. No significant valvular abnormalities.
Coronary angiogram: No evidence of CAD, elevated LV diastolic pressure of 25 mmHg (Nl <20).
Final Dx: Myocarditis related to an immune checkpoint inhibitor leading to HF.

Problem Representation: 45M w/ PMH of immunotherapy, p/w subacute worsening dyspnea, b/l LE edema, orthopnea and signs of inflammation.

Teaching Points (Vale):
Dyspnea Pyramid: Lung + Heart > Chest Wall, Neuromuscular, Hematology, Metabolic, Endocrinopathies.
Triage:
- Time Course is key! Acute onset prioritize morbid etiologies (MI, PE, HF, Tamponade)
- Signs of volume overload, fever (Prioritizes the lung), signs of presyncope (indicates poor perfusion and prioritizes the heart).

Is it the heart or the lung? Both?: Orthopnea, LE Edema, Dyspnea (heart) + Fever -> thinking of the -itis (pericarditis, endocarditis, myocarditis), pneumonia progressing to HF, Malignant effusion.
History of Immunotherapy: Risk of myocarditis. Immunotherapy augments the immune system -> risk of autoimmune conditions.
Cancer + Dyspnea Schema: Lung (PNA, Mass effect, effusion, tx toxicity), Heart (pericardial effusion, myocardial toxicity), Vascular (PE, SVC, Microangiopathy), Marantic Endocarditis, Anemia, Acidosis.
Pearl: S3 is the most specific sign for Heart Failure.
Could this be a pericardial effusion? Signs of left heart failure makes it less likely (b/l basilar rales, S3) + absence of friction rub.
Pearl: pro-BNP is low in pericardial diseases (right atrial damage)
Myocarditis Ddx: Most of them are idiopathic. Eosinophilic (Parasites-Toxocara, Loeffler's, Malignancy), Giant Cell (Ventricular arrhythmia and HF), Lymphocytic (Viral, Diphtheria, Toxo, Chagas) + Autoimmune causes and Drugs (Clozapine, Immunotherapy).
Immunotherapy induced Myocarditis: Target cells and myocytes share receptors.