04/16/21 Morning Report with @CPSolvers

***Case Presenter**: Usha George (@allthingslung) **Case Discussants**: Rabih (@rabihmgeha) and Reza (@DxRxEdu)*

CC: worsening SOB

HPI: 56 year old M with hx of cough presents with gradually worsening SOB for 1 month, associated with low-grade fever. Worsening pain and swelling of fingers. No chest pain

PMH: RA - diagnosed 3 years ago

Meds: anti-TNF Methotrexate - recently added Statin

Soc Hx: Works as electrician in Bangkok Thailand, lives in Malaysia

Health-Related Behaviors: Former smoker

Vitals: **T**:37.8 **HR**: 97 **BP**: 140/76 **RR**: 25-30 **SpO_2**: 95% on 2L

Exam:
Gen: alert
CV: no JVP, no murmurs
Pulm: fine inspiratory crackles at mid-zone
Abd: soft, no organomegaly
Extremities/Skin: no rashes, swelling of MIP, PIP joints - non- tender, no edema

Notable Labs & Imaging:
Hematology: WBC: 5 (neutrophilic) Hgb: 12 Plt: 437
CRP 115 (H), Procalcitonin - 0.06 (H)

Chemistry: Electrolytes nl
AST: nl ALT: nl Alk-P: nl T. Bili: nl Albumin: 32, Protein 73
RF 1077 (less than 30 is nl), ANA 1:40, nl complement
U/A - no proteinuria
Mycoplasma IgG 1:60, viral resp panel neg, blood cx - neg
Sputum Gram stain neg, TB quantiferon indeterminate, HIV neg

Imaging: PFT: 66% FC, 57% DLCO (nl is 75%), desat to 92% on walk test; Echo: normal systolic ejection fraction, no vegetations; CT lung - fine basal reticular fibrosis, patchy areas of ground glass, alveolar consolidation
Provisional diagnosis: exacerbation of ILD precipitated by Mycoplasma - d/c on prednisolone, initially improved. 3 weeks later - presented w/ low grade temp, persistent cough, 2kg weight loss, CXR - new infiltrates
BAL: MTB PCR positive

FInal Diagnosis: TB exacerbating ILD

Problem Representation: 56yoM w/ PMH of RA diagnosed 3 years ago p/w worsening cough and SOB for 1 month a/w fever, pain, and swollen fingers. Labs showed high CRP and high procalcitonin w/ positive RF found to have ILD on imaging.

Teaching Points (Priyanka):

- **Clin Pearl: When you see cough + other Sx→ usually approach the other Sx.**
  - Low grade temp→ inflammation
- **SOB**→ base rate approach, prioritize most common causes (95% of SOB is localized to the heart or the lung, less likely Neuromusc disease, autoimmune, rheum causes, anemia)
  - **Heart-** pericardium, epicardium, endocardium
  - **Lung-** airway, alveoli, interstitium
- **Pain and swelling of fingers-** likely arthritis BUT consider: periarticular (bone, ligament, bursa, tendon) dz of the bone, hypertrophic osteoarthropathy, dactylitis
  - IF arthritis: RA- pleuritis, nodules, ILD; Scleroderma; Sjogrens (rare); SLE

TNF α inhibitors - increase the risk for granulomatous infections such as TB and MAC + granulomatous malignancies like lymphoma

- Crackles- pus, water, blood, ILD, protein, cancer cells
- **RA**: arthritis - appendicular > axial, spares DIP, T/L spine; consider extra articular manifestation (serositis, ILD, nodules, vasculitis)-- increased degree of titer of RA more likely to have EAM
- **Clin Pearl: Autoimmune dz: manifestation of AI dz, disease flare, hypercoagulable, side effect of medication (anti-TNF med, secondary infection?)**
- **PFTs**: FVC-measures difficulty exhaling air, low DLCO- CO not diffusing as well, alveolar vs vascular problem→ study the image- can help localize
- **Subacute pulm parenchymal disease**- infection, malignancy, ILD (focus 2/2 AI dz)
  - **ILD-** RA (pulm airway dz-- NSIP- subpleural sparing, cryptogenic organizing opacities, IPF- honeycombing, COP; pleural dz- usually spares vessels), world (exogenous, HP), idiopathic
- **Persistent Pulm dz points to Infection** - granulomatous infection-- mycobacteria, MTB, other granulomatous infections (miliodosis); fungi (TNF blockers can trigger PJP),