10/11/24 Morning Report with @CPSolvers

***"One life, so many dreams" Case Presenter**: Vijay (@) **Case Discussants**: Rabih (@rabihmgeha) and Prof Reza (@DxRxEdu)*

CC: 46yo f w/ fever for 20 days. (Happening in India)

HPI: 46 yo f presents with high grade fever associated w/ sob and dry cough both worsening over the past 20 days.
No hx of chest pain and ROS is otherwise normal.

PMH: CKD stage 3, chronic tubulointerstitial nephritis w/ crescents on biopsy, ANA and ANCA negatif treated with steroids 4 years ago

Meds:
Telmisartan for HTN

Fam Hx:
Unremarkable

Soc Hx:

Health-Related Behaviors:
No alcohol, tobacco, drugs

Allergies: Denied

Vitals: T: 99F **HR:** 70 **BP:** 170/110 **RR:** 20 **O2** 98
Exam:
Gen:
HEENT: CV: Pulm: Abd: unremarkable

Notable Labs & Imaging:
Hematology:
WBC: 12 Hgb: 8.6 (bsl 11.5 in june 2024) MCV 88 Plt: 580k
Neutrophil 78

Chemistry:
Na: 128 K: 4.8 Cl: HCO3: BUN: 48
Cr: 4.8 (bsl 2.8 gradually rising trend) HCO3: 18
Ca:8.6 VitD: 54

AST: ALT: Alk-P: Albumin: normal
Urine: 1+ protein, 3-4 WBC, no RBC
24h protein: 258 mg

Imaging:
CT: consolidation right upper middle lobe, bronchiectasis, diffuse ground glass opacities.

Repeat UA: 60 RBC
BAL: diffuse alveolar hemorrhage
C and P Anca neg

Kidney Biopsy: FSGS
ANCA: PR3 positive (56)
Repeat BAL: infectious workup negative

Dx: GPA associated vasculitis

Problem Representation:
46 yo F w/ CKD3(chronic TIN w/ crescents on biopsy, neg ANCA and ANA) presents w/ 20 days of fever, SOB, Dry cough. BP 170/110, labs significant for n.n anemia, thrombocytosis, rising cr at 4.8, proteinuria +1. CT shows diffuse GGO, RUL consolidation, BAL suggestive of DAH

Teaching Points(Julia)::
long standing SOB w/ acute **reduction of exertional capacity**:
- a non-inflammatory progress is unlikely to suddenly progress to an inflammatory → consider 2 separate processes
- Most common causes of reduction in exercise capacity
  - pulmonary: COPD, ILD
  - cardiac CAD; structural heart disease (AS)
- Chronic diseases that tend to flare up: pulmonary > cardiac

Tempo of the disease
Be careful with tempo estimation (subclinical chronic vs. acute)
Fever + SOB : inflammatory thoracic schema (heart, lung, mediastinum)
Occurrence not simultaneously: think broader
Crescents on biopsy -> **Intrarenal AKI:**
Diagnosis = > prevention of progression !!
I) **Glomerulus**: a) *immune complex* (complement !! low-> SLE, normal: IgA, b) ANCA (pauci immune) c) anti-GBM
II) **Tubulus** (1) ATN (2) pigments, crystals, proteins)
III) **interstitium** (medication(PPI), infection(pyelonephritis, Tb)
Autoimmune: Lupus, sarkoidosis, IgG4-disease)
IV) **Vessels**
Exam neg SOB w/ acute on chronic disease progress: subtle interstitial lung diseases, mediastinum >> anemia, CAD
Nephrogenic pulmonary edema + anemia => SOB (explanation sufficient?), systemic fingerprint - anemia + thrombocytosis → Iron studies, serum paraprotein analysis

CKD hints: I) small kidney II) anemia (low EPO))) 2nd Hyperpara
DAH: diagnosis by multiple lavages w/ serious bloody return vs. focal source of bleeding procedure result in dilution of blood w/ normal saline (blood moves w/gravity in the lung)
differentials: Bleeding from medication, HF, infections, cancer, vasculitis
A <-> B <-> C ? Kidney disease -> increased vulnerable vs autoimmune disease -> kidney disease
Putting things together:
Pauci immune only 70% are ANCA pos + bronchiectasis e.g. Microscopic polyangiitis, GPA
DDx: Lupus IgA and cryoglobulinemia -> no thrombocytosis
Anti GBM: DAH, glomerulonephritis but generally no bronchiectasis, thrombocytosis

Repeat UA, repeat Serology, where to biopsy ? - tissue is the issue !!