12/21/20 Morning Report with @CPSolvers

***Case Presenter**: Gurleen Kaur (@Gurleen_Kaur96)* ***Case Discussants**: Kevin Van Derveer (@vandylism) and Dhruv Srinivasachar (@TheRealDSrini)*

CC: Back pain.
HPI: 45yF p/w 2 weeks of bl back and flank pain + generalized weakness + vomiting + intermittent headache and flashes of light in central vision and spots in vision for 30 seconds bilateral in the morning. No floaters. Progressively fatigued and lightheadedness.

A couple of weeks ago in routine labs serum Cr 1.6, afterwards repeated labs 1 w later → Cr 2.2. Later had MRI w/contrast of L leg taken bc of discomfort, nausea and vomiting worsened. MRI: Nonspecific subcutaneous edema around pretibial area. No masses.

ROS: no SOB, fevers, weight loss, night sweats. Joint swelling attributed to rheumatoid arthritis, and dry eyes. No urinary symptoms or diarrhea.

PMH:
Hypothyroidism 10y, RA, Migratory joint pains in hands and knees for 1.5y. Swollen and red finger tips.

Meds: synthroid, Ibuprofen PRN - stopped 2 months ago bc of possible allergy.

Fam Hx:
Thyroid disorder father. Breast and colon cancer mother.

Health-Related Behaviors: 10 y pack history of tobacco use. No alcohol use currently.

Vitals: **T**:36.5 **HR**:88 **BP**:215/91→ labelatol 170/80 **RR**: 18 **SpO$_2$**:99 RA
Exam:
Gen: no acute distress. Alert and oriented.
HEENT: atraumatic, normocephalic. Ophthalmology: blurring of nasal disc margin and bilateral optic disc edema. Focal areas of retinal atrophy. Elschnig spots: yellow demarcated lesions in macular region = hypertensive retinopathy. Anterior chamber normal.
CV: RR. 2/6 systolic ejection murmur along sternal border.
Pulm: CTAB **Abd:** soft non distended. Mild discomfort in RUQ. **Neuro**: No focal deficits. CN nl.
Extremities/Skin: 1+ lower extremity edema bl. Distal pulses normal. No midline tenderness on spine. No rashes on skin exam or Raynaud's phenomenon.

Notable Labs & Imaging:
Hematology: WBC:8.8 (N 62, L 29, M 5) Hgb:9.9 Htc 31.3 MCV 78.8 Plt:390
Chemistry: Na:138 K:4.4 Cl:105 CO2:23 BUN:34 Cr:3.7 glucose:92 Ca:8.9 Phos:7.2 Mag:1.9
AST:13 ALT:9 Alk-P:80 T. Bili:0.3 Albumin:3.2 TP:6.6
Troponin neg. VSR 90, CRP 27.7, Lipase:41.
Iron 19, TBC 239, % Sat 8, Ferritin:131. PTT 30, PT 10.9, INR:1
UA: 4+ protein, 3+ hemoglobin, microscopy showed RBC w/no casts, spec gravity 1.019, urine protein 1084, Na 54, Cr 198, Osmolarity 314. 24h: protein: 5825, Cr: 1.2.

C3: 35.1, C4: <8, haptoglobin: 283.9, ANA 160 speckled pattern. Rheum factor:18, anti MPO and anti proteinase and CCP nl. Anti SS-A, anti SS-B nl. Anti cardiolipin, scleroderma, DsDNA, neg. Coombs neg. Cryoglobulins neg. IgG high 5124, IgA over nl limits.
HIV neg. HepB and HepC neg. TSH:7.3. Free T4 1.34,

Imaging:
EKG: normal sinus rhythm. CXR: small bilateral pleural effusion. No pulmonary edema.
CT Head: no acute intracranial abnormalities.
Renal USG: kidneys of nl size and cortical thickness. SImple renal cyst R upper pole.
Abd USG: hepatomegaly 21cm, nl echogenicity, no focal lesions and contracted gallbladder.
Echo: nl L ventricular function, EF>65%, no valvular lesions.
Xray Hands: nl. No evidence of RA or arthropathy.
Kidney biopsy: (preliminary) diffuse necrotizing and crescentic glomerulonephritis. Dx: Lupus nephritis w/ TMA. Full biopsy: not consistent W/TMA, fibrocellular crescents. Immune complex depositions and subendothelial deposits. **Final Dx: Lupus nephritis.**

Problem Representation: 45W w/ previous dx of RA p/w subacute neurologic/MSK sx in the setting of worsening renal dysfunction. Notable for HTN, anemia, + nephritic/nephrotic sx.

Teaching Points (Kiara):
When we have a lot of information → Which offers ***highest PPV?***
Bilateral back and flank pain: 1ry kidney-UTI, obstruction-hydronephrosis, aki, 1ry malignancy-MM, bone malignancy.
Weakness: True weakness (neuro), systemic
High Blood Pressure: Vasculitis, 1ry hypertension, hyperthyroidism, kidney (GN)
RA + kidney injury: non-specific (N/V,HTN), 2ry amyloid-long time, membranous nephropathy due to RA meds.
Scleroderma crisis: 20% is an emergency w/ AKI, HTN, headache, pulmonary edema, microangiopathic hemolytic anemia on P. smear treat ASAP w/ ACE-I.
UA: Glomerulonephritis probably autoimmune.
GN:
- **60% pauci immune pattern** (C-ANCA/ PANCA, MPA, GPA, EGPA)
- **10% Anti GBM:** ANCA serology
- **30% IC:** Low complement (Virus-Hep C w/ cryoglobulinemia, bacteria, autoimmune-LES, Sjogren, cancer-lymphoma) normal complement (IgA, henoch schonlein)

Cryoglobulinemia: Hep C, HIV, MM, LES, Sjogren, Waldenstrom macroglobulinemia.
LES nephritis: 10% end stage kidney ds, NETs → endothelial damage, macrophage activation, autoantibodies. Immune complex, thrombotic microangiopathy.