Rheumatology Renal Conference

Dana Assis, MD
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Case Presentation

- Initial Presentation in September 2012
- 45 yo female with medical history iron deficiency anemia, uterine fibroids, depression, history of IVDU, presenting with fatigue and dizziness for one month.
Review of symptoms

• Positive for: nausea, vomiting, nasal congestion, cough with blood streaked sputum, epistaxis, and single oral ulcer
• Negative for: weight loss, skin rash, fevers, chills, or joint pains (none at time), chest pain, or shortness of breath. no hematuria or dysuria. No abdominal pain.
• Heavy menstrual bleeding.
Medical History

• PMHx: dysfunctional uterine bleeding, uterine fibroids, bipolar disorder, fibromyalgia, possible myositis (no muscle biopsy)
• Had positive joint pains one year prior
• One month prior to presentation given PO abx for suspected CAP
• PSHx: no surgical history
• FHx: no family history of renal disease, RA, Lupus, DM, HTN, or DM.
• All: NKA
• Medications: None, denied supplements, herbal medications, or NSAID use.
Physical exam

• Vital Signs T 97 BP 114/70 HR 63
• HEENT: conjunctival pallor, sublingual ulcer
• Pulm: CTA b/l
• CV: rrr, no mrg
• Abd: soft, nd, nt, bs positive
• Ext: no edema, no rashes, no joint swelling, or tenderness
• Neuro: AAOx3
Lab

- Baseline BMP in 2011 139/4.4/108/25/15/0.6
- BMP 135/5.6/97/27/83/8.3
- CBC Hb 4.1 plt 263 wbc 8.6
- Albumin 4.1 Tp 7.7
  Ast 14 Alt 8 AlkP 40
• Urinalysis
  • Large 3+ blood, protein >300mg/dl, wbc 5-10, rbc 50-100
• Up 665 Ucr 45 = 14gm
• Up 216 Ucr 84 = 2.5gm
• Urine microscopy
  large 3+ blood with few dysmorphic rbcs, no rbcs casts, coarse granular casts
• Given new onset renal failure, hematuria, nephrotic range proteinuria additional serology sent
Serology

- ANA 1:80 homogenous
- dsDNA Ab 8 (IND)
- RF < 10.5
- ANCA
  - PR3 2.8
  - MPO >8
- Anti-GBM negative
- C3 71.7 (L)
- C4 9.68 (L)
- SPEP: no abnormal monoclonal band
- Hepatitis Panel – Hep C negative, Hep B vaccinated
Serology

- IgG 1389
- IgA 230
- IgM 233
- SS-A negative
- SS-B negative
- Anti Sm Ab negative
- Anti RNP negative
- Cryoglobulin detected
- ASO 173
- HIV negative
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Imaging

- **Renal Ultrasound:** normal in size (11 and 12cm) with no hydro
- **CXR:** No acute pulmonary disease.
- **CT Chest:** scattered groundglass opacities in both lower lobes and right middle lobes suggestive of hemoptysis in appropriate clinical setting. Trace right pleural effusion.
Differential diagnosis

• ANCA Associated Vasculitis
• Anti-GBM
• SLE
• Levamisole induced vasculitis
Renal Biopsy 2012

- Diffuse crescentic glomerulonephritis. Total 25 glomeruli, 3 GS, 8 segmental to circumferential cellular crescents, 5 glomeruli segmental to circumferential fibrocellular crescents, 2 segmental necrosis without crescent.
- Mesangial immune complex deposition disease
- Tubular atrophy and interstitial fibrosis (mild to moderate), mixed interstitial inflammation, focally severe.
- Peripheral capillary loops patent normal peripheral wall thickness and smooth external contour. Few possible red blood cell casts are identified.
- IF IgG (4+), C3 and lambda (3+), kappa (2-3+), IgM and c1q (1-2+), IgA (mostly negative, focally trace)
- EM no subepithelial, intramembranous, or subendothelial deposits. No TRI. Small mesangial immune complex type deposits.
Treatment Course 2012

• Dx levamisole related ANCA crescentic renal limited GN diffuse necrotizing crescentic GN with IC deposits as well
• Patient was given pulse dose steroids x 3 days
• Prednisone 60mg daily
• Patient declined stay in house to await IV cytoxan infusion – was discharged on PO cytoxan
• September 2012 received IV cytoxan
• December 2012 received IV cytoxan
• Difficulty adhering to IV cytoxan regimen
• Labs
  • BMP Bun 14 Cr 1.2
  • Urine Large 3+ blood Protein 300mg/dl
Clinical presentation Feb 2013

- Patient *continued to deny* fevers, chills, cough, sob, hemoptysis, nausea, vomiting, abdominal pain, dysuria, diarrhea, or gross hematuria.

Physical exam BP 141/79 HR 65 RR 18 T 97
- NAD HEENT conjunctiva normal, no oral ulcers
- Lungs clear
- CV rrr no mrg
- Abd soft nd nt
- Ext no edema
- Skin no rashes
February 2013

- Patient admit BHC in setting of rising Cr (1.8-2.1) with persistent hematuria (large 3+ blood, rbcs 5-10) and proteinuria (Up Ucr 269/93 = 2.89)
- She was switched to rituxan given history of non adherence
- She received two doses two weeks apart in March 2013
- ANCA Panel
  - PR3 <1 MPO 1.2
March – November 2013

• Uncomplicated clinical course, she remained asymptomatic during this time.
• Her laboratory values significant Cr remained 1.6-1.8
• Up/c ratio = 1.8
• Despite treatment cytoxan and rituxan patient with persistent hematuria (rbc range 5-10), proteinuria ratio 2gm, Cr trend 1.3-1.8
• Serology at this time
  • ANA negative
  • dsDNA negative
  • ANCA panel PR3 <1 MPO <1
  • C3 127 (N)
  • C4 25 (N)

B cells 0-4
Renal biopsy Nov 2013

- 6/15 globally sclerotic glomeruli no active necrotizing or crescentic lesions
- Plan to continue to taper prednisone
- Her B cell levels checked – still depressed
- Plan to start patient on imuran for maintainence
Clinical Course 2014

- Presents in February and June
- She is still on prednisone 20mg at this time
- Noted to have elevated TSH levels – started on levothyroxine
- PE not remarkable
- Labs reveal Cr 1.6
- Urine p/c <1gm
- Urine negative blood 2/14
Clinical Course 2015

- Presents to Renal Clinic in April after not been seen by any MD since Sept 2014. She reports fatigue and decreased energy.
- Is not taking medication regularly at this time.
- ROS negative: sob, cp, hemoptysis, nausea, vomiting, abdominal pain, rash, vision changes, dry eyes, nasal congestion, muscle weakness or tenderness, no joint pain.
- Physical Exam BP 112/72 HR 64
  GEN NAD
  Pulm CTA bl
  CV rrr no mrg
  Abd soft nd nt
  Ext no edema, no rash, no joint swelling
• Plan to check blood work, serology, urine studies
  Consider rituxan for maintenance therapy
April 2015 – May 2015

- dsDNA Ab 32
- C3 118 (N)
- C4 18.2 (N)
- ANA 1:160
- ANCA
  - PR3 <1
  - MPO 1.8
- TSH elevated 300s

- Repeat ANA 1:80
  1 mo later
- Jo-1 AB <0.2
- SCL-70 <0.2
- SSA <0.2
- SSB <0.2
- APS screen positive
- Anti cardiolipin IgG, IgM, AntiBeta-2 GP1 IgG, IgM all neg
• Apr 15 BMP 145/4/109/28/21/1.8

• Urine **negative blood**, protein 300mg/dl wbcs 2-5 no rbcs
• Up Ucr = 176 / 237 still <1gm (0.74)

• From April 2015-December 2015 demonstrates **no blood** on Ua and Up/cr <1gm with Cr 1.6-1.8

• Patient referred to derm/rheum appointments – but did not follow
Clinical Presentation March 2016

- Patient presents with fatigue, diffuse arthralgia pain.
- Of note presented to derm clinic with facial rash attributed to rosacea.
- ROS: positive pain joints (elbows, knees, hands, shoulders), joint swelling and stiffness, facial rash.
- ROS: negative sob, cp, leg swelling, vision changes, headaches, abdominal pain, nausea, vomiting, or urinary complaints.
• PE BP 125/81 HR 81 O2 100%
• Gen NAD, pustular rash on face, not sparing nasolabial folds, no oral ulcers
• CV rrr no mrg
• Pulm cta bl
• Abd soft nd nt
• Ext no edema, no rashes, no evidence of synovitis
Lab Evaluation

- Hb 12  Wbc 6  Plt 315
- BMP  BUN 28  Cr 1.8
- Ua rbc 50-100 large 3+ blood
- Up 124  Ucr 158 = 0.78
- ANA 1:320
- dsDNA Ab 204
- C3 100 (N)
- C4 8.99 (L)
- ANCA
  - PR3 2.9
  - MPO 3.9
- RF <10.6
- CCP <8
- TSH 341  Ft4 0.53
- Albumin 4.3
- GBM Ab <0.2
- SSA Neg
- SSB Neg
- RNP Neg
- Smith Neg
- Urine cocaine +
Differential diagnosis

- ANCA Associated Vasculitis
- Lupus – Focal or Diffuse Proliferative
- Levamisole induced vasculitis
Sept 2012  IV cytoxan  
March 2013  Rituxan  
Nov 2013  Biopsy Disease Activity  
June 2014  Ua no blood, Upc <1  
April 2015  Ua no blood, Upc <1  
March 2016  Large 3+ blood, Upc <1
Renal biopsy 3/2016
Follow up

• BMP 143/3.3/101/33/37/1.5
• Up Ucr 107/65 = 1.64
• Urine clear, blood large 3+, protein 100mg/dl, rbc 2-5