8/15/22 Morning Report with @CPSolvers

Case Presenter: *Noah Rosenberg (@nsrosenberg) **Case Discussants**: Adam Rodman (@AdamRodmanMD)*

CC: Trigger/rapid response by hemodialysis nurse for acute dyspnea in a 62 y/o F

HPI:
- Currently on dialysis - tunneled line on L side and maturing fistula on R.
-O2 sats in high 80s. Placed on 2L NC, sats not correcting w/O2.
-First time dialysis in this hospital. -Transferred for a mitral valve repair.
Episodes of dyspnea in the past. Diuresed and placed on bipap in the past, with resolution of sx.
Known history of eosinophilia evaluated by pulm.

PMH:
ESRD
HTN, DM
Hx of HFpEF EF~ 60%
COPD
Epilepsy
Peripheral neuropathy

Meds:
Keppra, Inhaler
Valproate, Hydralazine
Loratadine,
Amlodipine
Metoprolol, Statin

Soc Hx:
Lives with daughter
No env exposures or travel hx
No hx of atopy
From Haiti

Vitals: **T**: nl **HR**: **BP**: 140/70 **RR**: >25 **SpO_2**: high 80s on room air.
Exam:
Gen: Appear in respiratory distress.
CV: No new murmurs. Extant holosystolic murmur. No JVP elevation on physical exam. Slight elevation on US.
Pulm: Tachypneic w/use of accessory muscles. Unable to complete full sentences. Lung sounds in all fields. Crackles in both bases.
Abd/Extremities/Skin: No peripheral edema beyond baseline. Extremities are warm. Peripheral pulses intact & symmetrical. Chronic joint changes associated w/osteoarthritis. No palpable abd or breast masses. No detectable LAD.

Notable Labs & Imaging:
Hematology:
WBC: 10.7 Hgb: 7.7 Plt: 211k VBG: pH 7.33 pCO2 44 total CO2 22 Lactate: 0.6 Trop: low BNP:
Chemistry:
Na: 135 K: 4.3 Cl: CO2: 20 BUN: 55 Cr: 8.8 Bicarb: 20
Imaging:
EKG: No acute MI
CXR: Mild interstitial pattern, consistent with pulmonary edema. No significant pleural effusions or focal opacities.

Given IV lasix, placed on BIPAP, moved to CCU. Disconnected from dialysis. Patient improved. Episode repeated 4-5x during course of dialysis.

TTE from prev. hospital: moderate/severe MV regurg

Repeat labs: CBC with diff: 60% PMN, lymph 4%, eos 28% (~4000).

CT w/contrast: small consolidation in L lower lobe compatible with aspiration. Small L pleural effusion. No evidence of adenopathy. Upper-lobe predominant centrilobular emphysema. No evidence of ground glass opacities or interstitial fibrosis.

Tryptase: 37.7 IgE: 2281

Galactomannan, beta D-glucan, histoplasma, strongyloides, stool O&P, respiratory infx panel: **negative**

Bedside scope (ENT): some angioedema & vocal cord swelling

Recurrence of episode w/line flushing. *No reaction when HD run through fistula.*

Diagnosis: dialysis-associated bronchospastic anaphylactic reaction

Problem Representation: 62 y/o F presenting w/acute dyspnea & tachypnea triggered by hemodialysis via tunneled line. Labs reveal eosinophilia & elevated IgE & tryptase. Found to have dialysis-associated anaphylactic reaction, which resolved upon switch to fistula + administration of prednisone.

Teaching Points (Promise):
- Rapid response/trigger 1st step: evaluate pt - triage (is pt in rapid decomp risk? Look for signs of resp collapse)
- Acute dyspnea workup: **dyspnea pyramid**

-4 lvls that cause acute onset dyspnea
Bottom: Pulm - PE (very common inpatient; need low index of suspicion), ARDS, pneumothorax/pneumonia, effusion, asthma/COPD
Cardiac: MI, arrhythmias, **CHF**, tamponade
Acid base: methemoglobinemia
Top: heme
-presence/absence of crackles not predictive of vol overload
-tests: VBG, CBC, BMP, trop, AP xray
-abs eos count >500 = **eosinophilia → 3W's: worms, wheezes, weird diseases**
-eosinophilia ddx: strongy, helminths, Loeffler syndrome, ABPA, DRESS, autoimmune (eGPA)
-review previous records for eos; get additional info for renal failure → **strong a/w dialysis and acute dyspnea**
-when to use ABG: 1) lok for shunt 2) look for other hemoglobinopathies
-elevated tryptase: allergic, angioedema, mastocytosis, genetic, secondary to CKD/ESRD/eosinophilic GI disorders, heme malignancy
-hemodialysis triggered chronic eosinophilic due to allergic rxn → Tx: steroids