1/14/22 Morning Report with @CPSolvers

***Case Presenter**: Samy Mady (@samymady12) **Case Discussants**: RLR <3*

CC: Chronic diarrhea

HPI: 77yoM w/ 2 month history of diarrhea. Non bloody, non mucous x4-5 times a day and persistent during the night. No N/V, fever, chills, weight loss, dyspnea, arthralgias, myalgias. No abdominal pain or tenesmus.

PMH: adenocarcinoma of the prostate (18m ago) b/l hydronephrosis and disseminated bone metastasis. PSA >1000. After qx tx PSA dropped.

Meds: Bicalutamide, leuprolide, denosumab.

Fam Hx: None

Soc Hx: Retired

HRB: 15 pack/year history. No EtOH.

Allergies: None

Vitals: **T**: 36.8 **HR**:98 **BP**:110/70 **RR**:14 **SpO_2**:97 BMI 22
Exam:
Gen: Awake, alert and dehydrated.
HEENT: Unremarkable
CV: No murmurs, rales or gallops.
Abd: No tenderness to palpation, no organomegaly, no rebound.
Pulm, Neuro, Extremities/Skin: Normal

Notable Labs & Imaging:
Hematology:
WBC: 12.8 (normal diff) Hgb: 10 Plt: 685
Chemistry:
Na: 131 K:2.1 Cl: 108 CO2: 14 BUN: 64 Cr: 3.8 (baseline 1.3) glucose: 110 Ca: normal Phos: normal.
AST: 20 ALT: 23 GGT: 58 Alk-P: 263 T. Bili: 1.2 Albumin: 3.1 TP: 7
LDH: 522 (ULN: 240) CRP: 3 (ULN: 0.5)
UA: Protein, sporadic erythrocytes.

Hydration therapy and K substitution were started, but K levels only reached 2.8 and Cr 1.6. Persistent refractory diarrhea. Azithromycin and metronidazole were ineffective. Stool cultures were negative. X3 for ova and parasites were neg. HIV neg. Serum electrophoresis: Polyclonal gammopathy. Serum immunofixation and light chains were normal. HLA DQ2/DQ8: normal.
TSH 0.01 T4 and T3 were normal. Stool Osm gap: 24. PSA was normal. Anti-tissue transglutaminase was normal. Calprotectin in stools was normal.
Imaging:MR Enterography: fluid filled small bowel loops, lymphadenopathy, no masses on spleen.
Calcitonin, gastrin, acetic acid were normal. Chromogranin A: 22 (ULN: <10). EGD: Reflux esophagitis. Colonoscopy w/biopsy: Unremarkable. VIP level: elevated. Shock developed and the patient passed away.
Necropsy: Adenocarcinoma and poorly differentiated carcinoma of the prostate. By immunofluorescence it was classified as a neuroendocrine tumor.
Final Dx: Verner Morrison Syndrome or Watery Diarrhea, Hypokalemia and Achlorhydria (WDHA).

Problem Representation: 77M w/ chronic diarrhea w/o blood or mucus. Dx of adenocarcinoma of the prostate w/ bone metastases. Labs showed low K, HCO3, high Cr, LDH and CRP.

Teaching Points (Rafa):

- **CHRONIC DIARRHEA**
  First - identify the problem - which hill will you climbing?
  Tempo is key - 2 months - i.e chronic diarrhea (>4 weeks)
  FRAMEWORK
  Inflammatory vs noninflammatory?
  Inflammatory - fever/chills , leukocytosis, blood, mucus, pus, tenesmus,
  Noninflammatory - stool osms are elevated (>50) or not?
  If yes - osmotic (celiac disease (fatty malabsorption) lactase deficiency)
  If not - secretory (diarrhea unrelated to food ingestion - diarrhea even at night) - gastrinoma, chronic infection (CMV/HIV)
- **COLLECTING CLUES**
  No signs of inflammation or osmotic diarrhea
  Secretory diarrhea becomes the focus!
  However - be careful when dealing with patients with a PMH or on medications that do not enable them to mount inflammation
- **CBC TELLING YOU HERE A STORY - CHRONIC INFLAMMATION**
  Thrombocytosis - reaction to something systemic (more common causes) or myeloproliferative diseases (less likely, polycythemia is also expected - eg, polycythemia vera)
- **NON-ANION GAP METABOLIC ACIDOSIS**
  Diarrhea, renal tubular acidosis, Addison disease, saline infusion
  If Urinary anion gap is neg - GUT - losing bicarbonate
- **LDH -** Hemolysis (increased indirect Bb, low haptoglobin, reticulocytosis), infarction, lymphoma
- **CHROMOGRANIN POSITIVE** - neuroendocrine tumors: gastrinoma, VIPoma (WDHA) , prostate cancer differentiation)