02/10/25 Morning Report with @CPSolvers

"One life, so many dreams" Case Presenter: Dr. Constance Wu (@wustance) Case Discussants: Dr. Sam Brondfield (@s_brond)

CC: Global Weakness

HPI:
76 m Veteran,, hx afib (on AC), SCC of maxillary sinus(chemo/XRT in past), GIB(polyps removed), HTN, Parkinson's, 3 days of weakness, but prior not feeling well over course of weeks, and now not feeling well enough to get out of bed. Usually independent with ADLs, prior to a few weeks ago. No focal weakness, but globally has progressive loss of functionality with usual ADLs

ROS: endorses nausea, loss of appetite, denies weight loss, no fever, chills, chest pain, dyspnea, otherwise ROS negative

PMH:
Localized SCC (XRT and Cisplatin based 9 years ago) c/b Residual ptosis and neuropathy
-dental extraction recently (uncomplicated)

Meds:
Apixaban, sinemet, HTN meds

Fam Hx:

Soc Hx: High agent orange exposure (military grade herbicide), USPS worker,

Health-Related Behaviors: **N/A**

Allergies:
No notable allergies

Vitals: T: afeb BP: 145/70 RR: normal **HR**: 64 **Sat:** 100% RA
Exam: Gen: Tired appearing, no acute distress
HEENT: +Left facial droop(chronic), no palpable adenopathy
Neck: supple, no JVD noted
CV: irregular/ no murmurs, rubs
Pulm: CTA, normal work of breathing
Abd: soft, non-distended
Neuro/MSK: no rigidity, ⅘ in LE, upper extremities 5/5

Notable Labs & Imaging:
Hematology:
WBC: 1.81 (non-neutropenic)(WBC 8.5, 4 months prior) Hgb: 9.1 (12.4)
Plt: 111 (140) MCV: normal
Peripheral smear: ovalocytes, tear drop cells, no blasts, or atypical cells, pancytopenia noted
Retic count: inappropriately low
Vit B12(nml), copper(nml), LDH normal
UA with proteinuria
HIV/HBV/HCV negative, SPEP normal
RUQ normal
Chemistry (BMP otherwise normal aside from baseline CKD)
TSH: within normal limits
Initial Bone Marrow bx: non-diagnostic aspicular, flow cytometry CD5-, CD10 negative, c/f B cell lymphoproliferative
PET-CT: negative
CT Bone marrow bx: C/f acute leukemia (myeloid or lymphocytic)
Flow cytometry: supported APML, FISH:

Dx : Acute Promyelocytic Leukemia (APML)

Problem Representation: 76 yo male presenting with PMH of SCC, GIB and Parkinson's dz p/w fatigue, nausea and loss of appetite. Labs revealed pancytopenia and blood smear showed teardrop cells.

Teaching Points (Maryana):
- **Weakness** - what actually is going on? Systemic vs focal causes- Plus: neurological symptoms, muscle pain, sleepiness? Try to go to ***something more narrow*** than weakness.
- **Fatigue**: more systemic than focal. Ddx: cancer, anemia, chronic conditions (GI bleed, progressive Parkinson's disease), cardiac issue (chronic Afib).
- Role of SCC of maxillary sinus: metastatic recurrence? Chemo or radiation years ago are less likely to be contributing to the fatigue. Some types of chemo may have a long term side effects.
- Length of the side effects secondary to exposure of chemo/radiation depends on the type of the drug - foggy mind can last for months or years; neuropathy from cisplatin and cardiac issues can be permanente.
- **Agent orange: has been linked with a variety of cancers!**
- Ddx for fatigue: infections, autoimmune, inflammations in general, ***endocrinopathies (thyroid - especially people that received radiation in the head/neck region),*** medications.
- Pancytopenia: Acute is very different than chronic! Unifying cause: bone marrow suppression (cell line production issue - infections, inflammation, malignancy, vitamin deficiency, medication) *vs* multiple causes DIC + marrow suppression. Is a bone marrow biopsy necessary?
- **Ovalocytes**: fairly non-specific
- **Teardrop cells** - blood cells being forced out the bone marrow - primary hematologic malignancy, metastatic solid tumor (prostate, e.g.), infiltrative diseases.
- Lack of blasts - less likely to be leukemia, but it can be ruled out yet.
- Non-diagnostic bone marrow bx: two possibilities -> Missed the marrow *vs* dry tap (no component to grab in the aspiration - myelofibrosis, fibrotic progression of myeloproliferative diseases). Soft marrow - multiple myeloma (thrombocytopenia is not very common in this scenario).
- Second bone marrow bx: assess images first to see if there is other structure to biopsy (organomegaly, lymph nodes).
- Lymphoproliferative disorders: B cells proliferating Is this the cause or there is something else going on?
- APML: dangerous and treatable. Most commonly associated with DIC (brain bleed - treated supportively), **susceptible to target therapy (derivative of vitamin A)! *Diagnose and treat ASAP - watch closely to avoid consequences of dz & tx!***