MYELOID DISEASE IN THE ELDERLY

89M with cytopenias. Retired high school teacher. Never smoked. Drinks 1-2 beer/day. Feels generally well. Complains of some mild fatigue but independent of ADLs and IADLs.

Past medical history includes dyslipidemia, hypertension, mild CKD with baseline GFR 30s, NIDDM, depression, osteoarthritis, and gout.
Medications include ASA 81mg, rosuvastatin, allopurinol, metformin, and citalopram.

Current labs: Hb 121, MCV 98, platelet 130, WBC 5 with ANC 2.0.

What is included on your differential?
Age related cytopenias, anemia of chronic disease, anemia of kidney disease, cytopenias of inflammation, drug induced marrow suppression, alcohol toxicity, underlying hematological malignancy – includes lymphoma, myeloma, and myeloid diseases. Specific myeloid diseases in this instance include myelodysplastic syndrome, myelofibrosis, and even AML.

What questions are you interested in on history?
Constitutional symptoms – includes pruritis and concentration difficulties, adenopathy/splenomegaly, bone/back pain, clot history, neuropathy, infectious history, erythromelalgia, cytopenia specific symptoms, inflammatory symptoms.

What would you order on workup?
CBC, reticulocytes, SPEP, FLC, Cr, LDH, LFTs, testosterone, B12, iron studies, CRP, TSH, viral serologies

When would you do a bone marrow biopsy?

When working up cytopenias there are 3 big factors to consider – absolute value of the cytopenias, trend of the counts, and symptoms related to the cytopenias. In MDS and MF, supportive care is typically not required until **Hb <100, plt <100, and/or ANC <1 but usually <0.5.**

Myelodysplastic Syndrome
Mostly seen in older adults, median age of presentation is 70
Male > female EXCEPT in del(5q) (subtype that tends to present with anemia and thrombocytosis)
Annual incidence ~ 4 per 100,000
Many different subtypes distinguished by pathology
Typically present with macrocytosis and cytopenias
Prognosis varies based on degree of cytopenias, cytogenetics, and molecular mutations
Risk of death related to complications of cytopenias and progression to AML
Treatment includes supportive care and chemotherapy in some cases

Myelofibrosis
One of the myeloproliferative disorders
Can be primary or secondary that has progressed from either polycythemia rubra vera or essential thrombocytosis
Primary MF median age at presentation is 67 but 15% are under age 50
Incident ~1.5 per 100,000 per year
Often presents with splenomegaly in addition to cytopenias (platelets and WBC are variable) and risk of thrombotic event ~1-3 per 100 patient years.
Constitutional symptoms are common
Prognosis also depends on cytogenetics and molecular mutations
Risk of death related to symptomatic cytopenias, progressive disease, and transformation to AML
Treatment is typically supportive care +/- tumour directed therapy

Acute Myeloid Leukemia
Median age at diagnosis is 68 and increases with age
Prognosis depends on ability to tolerate chemo, disease response to treatment, cytogenetic and molecular mutation status
Patients >70 years are NOT eligible for induction/intensive chemotherapy, therefore the disease is NOT curable
There are well tolerated treatment options, even for older adult, but the goal is for improved quality of life (and less cytopenias) with extension of life
Azacitadine + Venetoclax is the best option with ORR ~ 60% and median OS extended to 15 months
Without tumour directed therapy, life expectancy is <12 months

Take Homes:
All 3 of these conditions are incurable and, by definition, palliative in the older adult. Supportive care is a mainstay of treatment. Prognosis is widely variable and individualized.