# 5/12/26 Morning Report with @CPSolvers

*"One life, so many dreams"* ***Case Presenter****:Manasa(@)* ***Case Discussants****: Ravi(@rav7ks) & Kirtan(@KirtanPatolia)*

*https://clinicalproblemsolving.com/present-a-case/*

Scribing (Lukas)

**CC**: 16 yo female with fever for 1 month, bilateral yellow discoloration of eyes 1 month, recurrent epistaxis from nose for 20 days

**HPI**: one month prior developed intermittent low grade fever, relieve with OTC/tylenol. Then developed icteric eyes. Took unknown herbal medication for nearly 20 days. Developed diffuse dull aching abdominal pain associated with anorexia and malaise. Then recurrent episodes of spontaneous epistaxis over past 20 days. 4 episodes, gradually getting worse. In last episodes she had anterior nasal packing placed.

**ROS (-):** pruritus, urine discoloration, abdominal distention, hematochezia, hematemesis, petechiae, gum bleeds, menorrhagia, easy bruising, hemoptysis, sensory deficits

**PMH**:
No blood transfusions
No prior comorbidities

Menarche at 12, regular cycles
**Meds**:
Herbal medication (unknown)
tylenol

**Fam Hx**:
wnl

**Social Hx:**
No drug abuse
No recent travel

**Health-Related Behaviors:**

**Allergies**:

**Vitals: T**: 100 **HR**: 88 **BP**: 100/80 **RR**: 15 **Sat**: 98 on RA **BMI**:
**Exam: Gen**: conscious. Palor, icterus
**HEENT**: wnl; nasal packing; minimal soakage, no gum bleeds
**CV**: wnl. **Pulm**: CTAB
**Abd**: distended, liver palpable 6 cm below right costal margin, smooth and firm, tender; palpable notch at the end of the liver; spleen palpable 18 cm below the left casual margin. No ascites. Bowel sounds present
**Neuro**: wnl; no focal neurological deficit
**Extremities/skin**: no lymphadenopathy; no petechiae

**Comparison Bloodwork 1 month vs now**
**Hb: 9 -> 6,6; plt: 14k -> 18k; TLC:** 3030
**MCV 112 -> 111; iron 150; ferritin 302;**
**Peripheral smear:** macrocytic anemia, anisopoikilocytosis, thrombocytopenia and leukopenia with reactive lymphocytes
**Reticulocytes 3,1 ; Reticulocyte production index < 2**
**Transferrin saturation 52, Coombs test direct/indirect: negative**
**Coags: pTT and INR wnl**
**ESR 20 CRP 89 LDH: 400**
**HIV, HepB, HCV, VDRL:** negative
**Imaging**
**Abdominal US**: Hepatosplenomegaly
**Doppler**: portal vein and splenic vein + flow wnl
**Echo**: wnl
Folate + B12: wnl Cr: 1,4 T. Bili 3.32 ALP 621 Albumin 2.6 protein: 5,86; Ca: 7,6 P: 1 AST 185 ALT 79
ANA negative; ama neg anti lkm1 negative
**Bone marrow**: hyperinfiltration of lymphoblasts more than 20% and reduction of all precursors erythroid, myeloid, megacaryocytic lines
**Flow cytometrie:** positive CD 19, 10, 38, 9; negative CD 20
**Cytogenic:** Philadelphia chromosome negative
**Course**: Progressive worsening state

**Dx: Aleukemic variant of acute lymphoblastic leukemia**

**Problem Representation**: 16 yo female p/w fever, icterus, recurrent epistaxis and hepatosplenomegaly for 1 months with bone marrow biopsy confirmed lymphoblastic leukemia with aleukemic variant

**Teaching Points (Hans/Manaswini)**

- **Fever, nose bleed and discolouration in eyes:** Inflammation, nasal mucosa friable (dry air, trauma,structure polyp, 3Ps), yellow tinge in eyes (liver, hematology). Hematology (hemolysis) vs hepatology (toxins systemic dz, congenital)
- **Epidemiological associations affecting LIVER :**

**A) Infectious Bucket:** 1. Viruses (HepA to E/ Herpes group- EBV &CMV/ Arbo/ HIV) 2. Zoonotic (lepto) 3. Parasitic (malaria/ leishmaniasis) **B) Non infectious Bucket :** Autoimmune/ thromboembolic/ malignancy

- **Significant Splenomegaly: 1. Is there other Reticuloendothelial involvement(LN) 2. Portal HTN vs No portal HTN.**

vascular/ infiltration(sarcoid/amyloid/histiocytosis)-cells /autoimmune vs malignancy, portal HTN (water) Imaging to investigate + CBC Chemistry

- **Approach to pancytopenia**: 4S's **S**tem cell(fanconi/telomere inv)/ **S**ubstance:nutrients (B12, Folate, Cu)/ **S**ystemic/ **S**PACE OCCUPYING

- **Approach to HIGH MCV:** Do due diligence - check B12/B9/Cu def
  These def **CANNOT** cause MCV of >110 !! → indicates 1.. misinterpretation due to agglutination by RBC's 2. involvement of BM: Reticulocytes/ precursors being pushed out of marrow not allowing proper RBC proliferation. This BM hypothesis is reinforced by degree of thrombocytopenia and lymphopenia
- **ALWAYS trend COAGS** : to r/o DIC at every step in this dynamic disease
- Splenomegaly alone never explains a platelet of <10-20k: Has to involve a *BM process or be ITP*
-Get **flow cytometry** to figure out if lymphocyte is malignant or not
**- R/o infections such as malaria, leishmaniasis, also Gaucher, SLE.** If negative investigate malignancies
**- BM biopsy: lymphoblasts, aleukemic leukemia(**cells in liver absent in periphery), ALL, CLL, Hairy Cell Leukemia, SMZL, SLL,
TdT→ lymphoid lineage, MPO- myeloid lineage , CD 20+: Makes it a favorable diagnosis which is negative here