Name: Dr. Megha Verma

Academia

- DrNB Clinical Hematology from Sir Ganga Ram hospital, Delhi (April 2018 to August 2021)
- MD (Medicine) from Lady Hardinge Medical College, New Delhi. (June 2014 to May 2017)
- MBBS from Lady Hardinge Medical College, New Delhi (July 2007 to December 2011)
- Internship Lady Hardinge Medical College, New Delhi -Jan 2012 – Dec 2012

Professional Work Experience Summary

Consultant, Department of BMT and hemato-oncology, BLK-MAX hospital from June 2022.

Consultant, Department of Hemato-oncology and Bone marrow transplantation, Rajiv Gandhi Cancer Institute and Research Center, From September 2021 to June 2022.

Presentations at Scientific congresses

- Poster presentation at APBMT virtual conference 2020- Covid-19 infection in post hematopoietic stem cell transplant setting- A case report
- Poster presentation at Hematocon 2020- Granulocytic sarcoma- A Diagnostic Conundrum- Two case reports
- Poster presentation at Hematocon 2019- A Study Of Clinico-Hematological Profile Of Anemia In Hospitalized Geriatric Patients
- Poster presentation at Hematocon 2019- Lymphoma presenting with HLH

Clinical research and Publications

➢ MD Thesis - A Study Of Clinico-Hematological Profile Of Anemia In Hospitalised Geriatric Patients.

➢ DrNB Thesis – Utility Of Hscore And Adapted HLH 2004 Criteria In Diagnosis Of Hemophagocytic Lymphohistiocytosis In Adults

Journal Publications

- HLH Masquerading Lymphoma: Diagnostic Dilemma And Treatment Outcomes, Indian Journal of Hematology and Blood Transfusion,DOI-10.1007/s12288-019-01250-2
- Pneumocystis Jirovecii pneumonia (PJP) -An unrecognised concern in AML patients on Venetoclax. August 2022.Leukemia reearch121(10):106926
- Busulfan(Bu) and cyclophosphamide (Cy) based conditioning regimen still holds the promise of being a safe and efficacious regimen for Allogenic Transplantation in patients with Transfusion Dependent Thalassemia(TDT), even in high risk. July 2022.European Journal of Hematology.DOI:10.111/ejh.13825

Awards and Achievements

➢ **Gold medalist** for being all India topper in DrNB(DNB) Clinical Hematology examination.

When To Suspect And Approach To Hematological Malignancy

Objectives

- Burden and epidemiology
- Classification
- When to suspect
- Emergencies
- Approach and evaluation of hematological malignancies

Incidence, Mortality and Prevalence by cancer site

INCIDENCE-NEW CASES

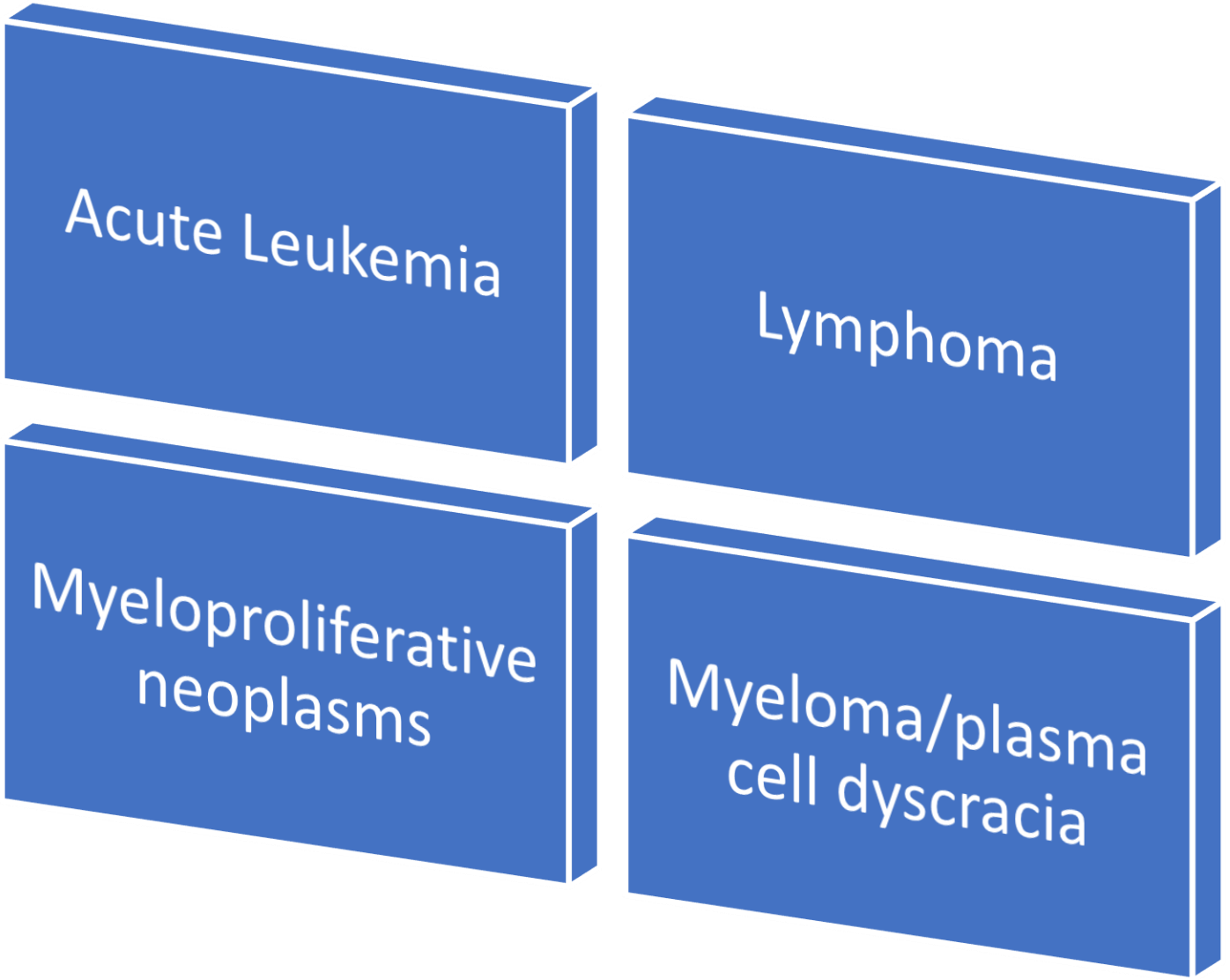
	NO.	RANK	% new cases	deaths
NHL	544 352	12	2.8%	2.6%
LEUKEMIA	474 519	14	2.5%	3.1%
MULTIPLE MYELOMA	176 404	22	0.91%	1.2%
HODGKINS LYMPHOMA	83 087	27	0.43%	0.23%

INCIDENCE-NEW CASES

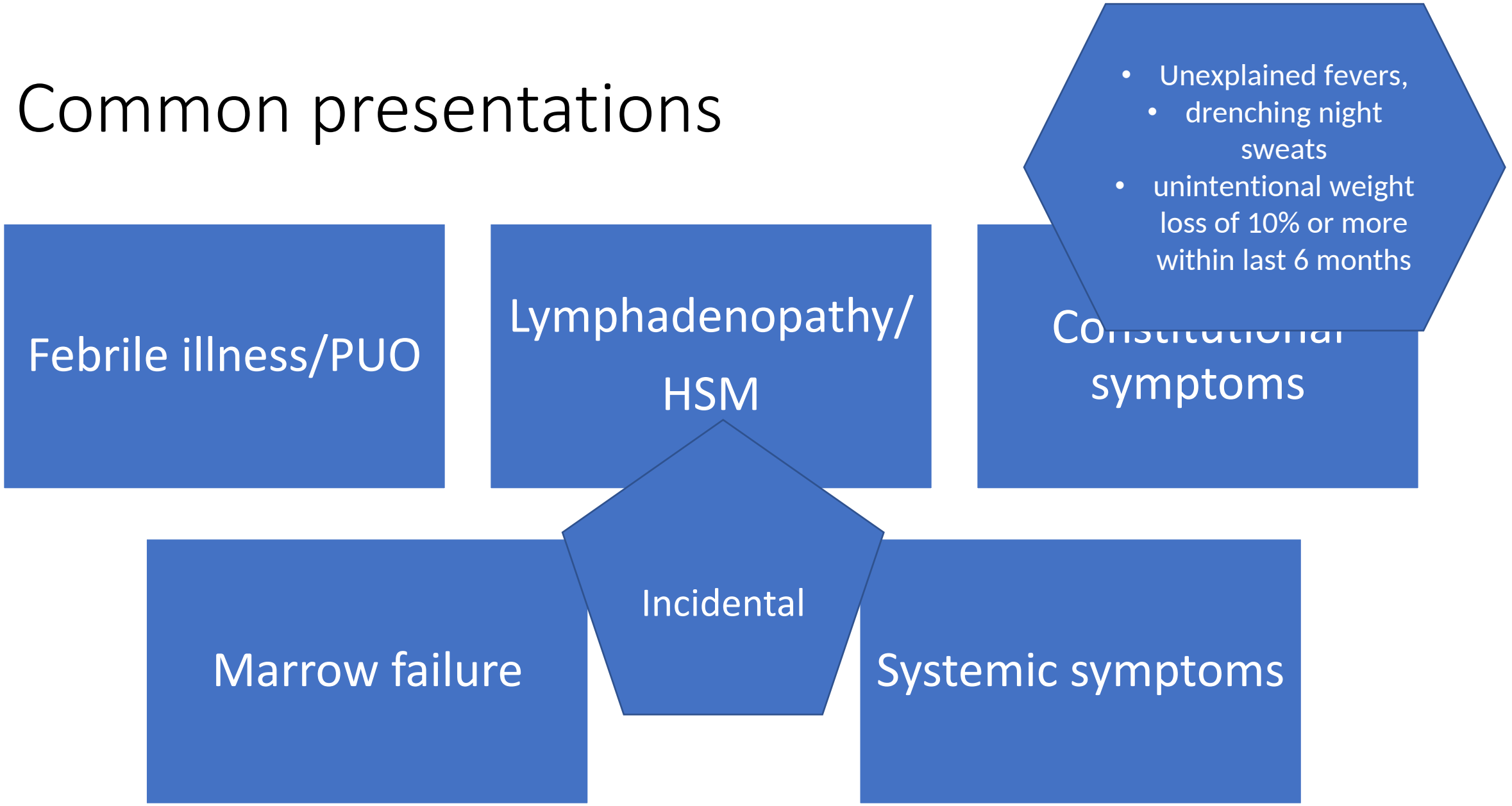
	NO.	RANK	% new cases	deaths
LEUKEMIA	48419	7	3.7%	4.2%
NHL	35828	9	2.7%	2.4%
MULTIPLE MYELOMA	14461	23	1.1%	1.5%
HODGKINS LYMPHOMA	9221	26	0.7%	0.41%

World
Source: Globocan 2020

Classification

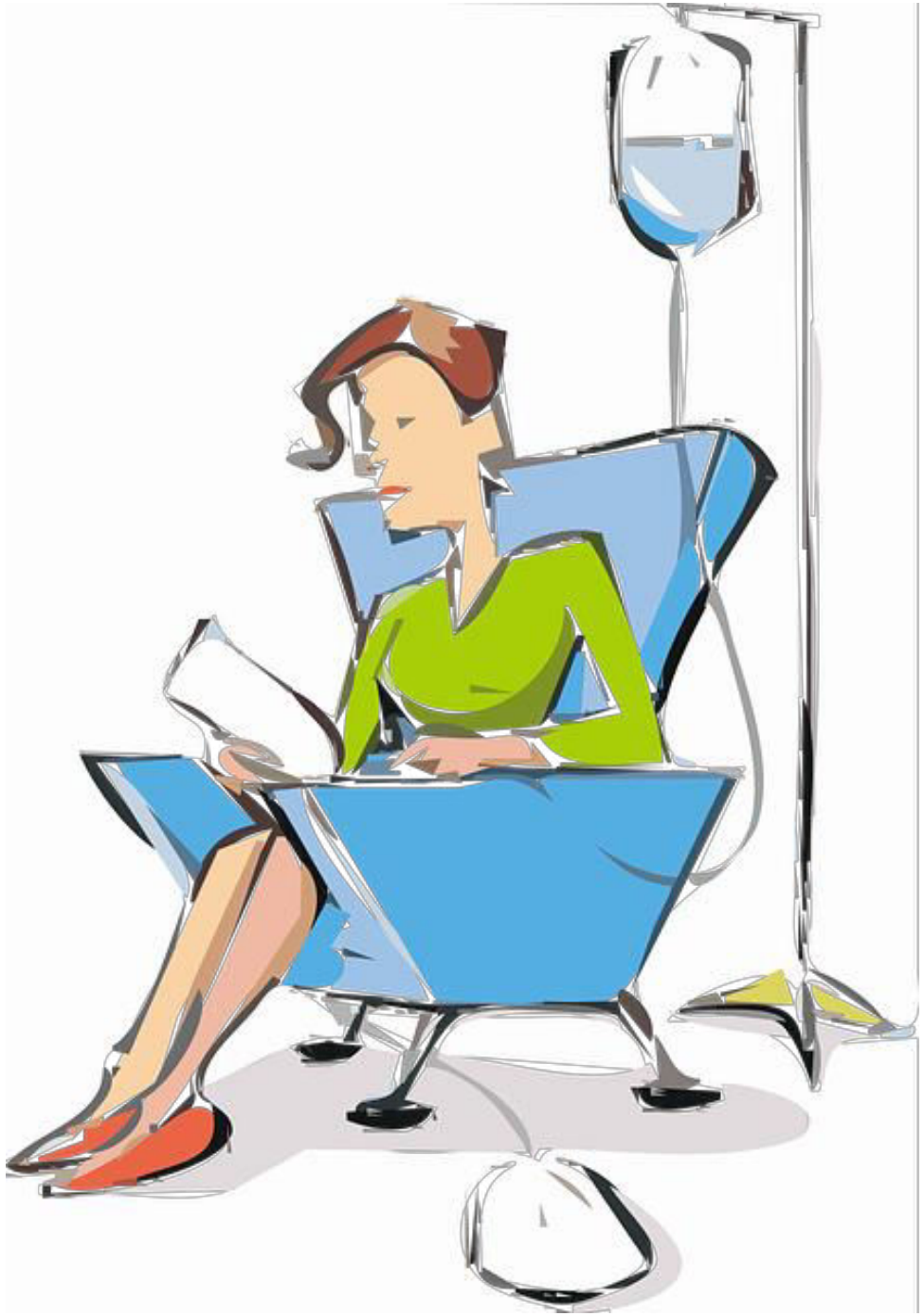


Common presentations



Anemia

- 62yr old lady
  - Weakness
  - HB- 8.8



Hyper-globulinemia
Deranged KFT
Bony pains
hypercalcemia

Macrocytic

Multiple different hospital visits

Hematinic refractory anemia with mild TCP

MCV/MCH/MCHC-High values
RBC count- low
Features of hemolysis

SPE- Monoclonal band 3.4g/dl
CT Chest/abdomen- Multiple lytic lesion
BM-40% Plasma cells

Multiple Myeloma

PBS- Hypolobate neutrophils
Bone marrow- significant trilineage dyspoeisis
Cytogenetics-46xx, del 7q
NGS-U2AF1, ASXL1

Myelodysplastic syndrome

PBS- Agglutination

Bone marrow biopsy- lymphoma infiltration

Lymphadenopathy on imaging

Non Hodgkins Lymphoma

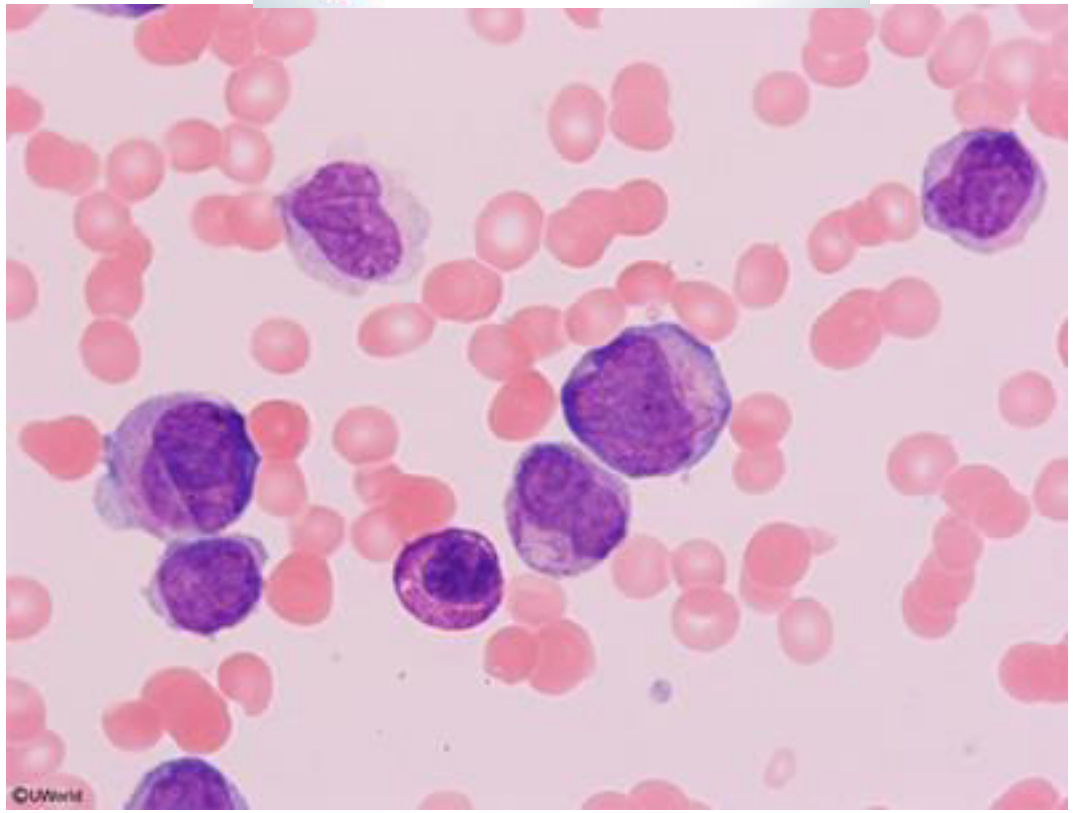
Cytopenias

- Fever: infections
- Bleeding gums, rashes: bleeding diathesis

30y/f presents with bleeding gums, rashes

- Invg-
  - CBC-9.2/11500/22000
  - MCV-88
  - LFT- Mild transaminitis
  - **DLC- N-2/L-48/M-40**
- PT/INR-WNL, aPTT- raised, fibrinogen- 65/dl (markedly reduced)

- Pbs- schistocytes, abnormal promyelocytes
- Emergency --- APML with DIC
- PML-RARA PCR (PB)- Positive
- Diagnosis- APML



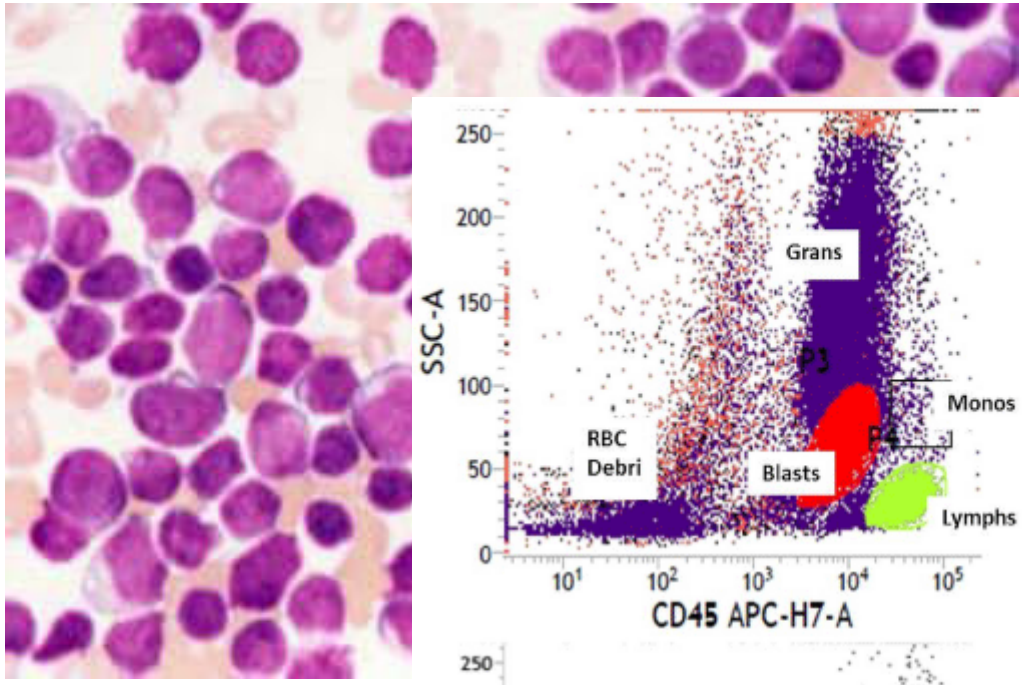
Leucocytosis

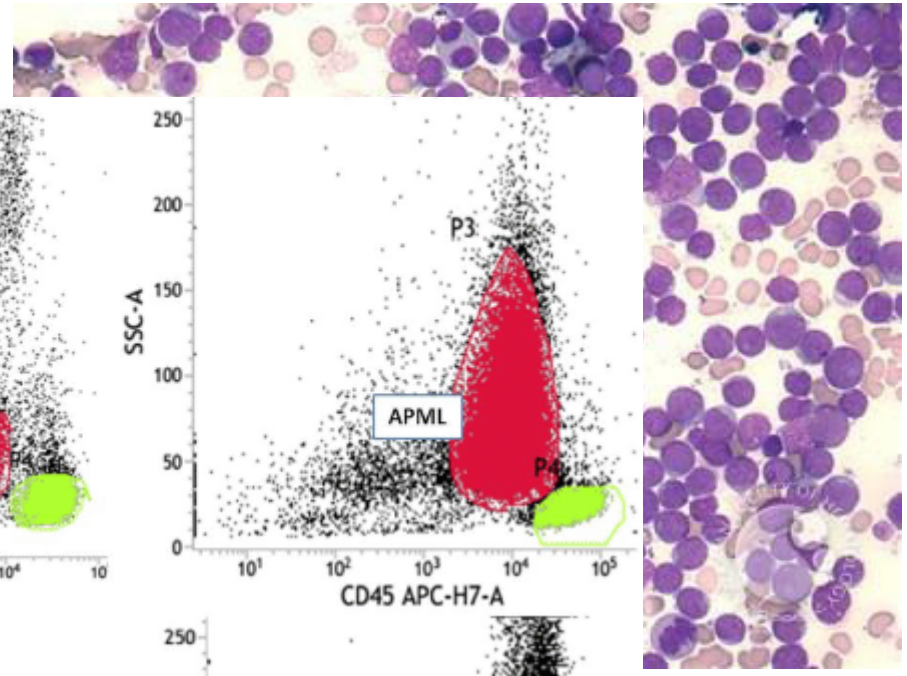
- 17y/male
- Joint pains, fever

- Cbc- leucocytosis with bicytopenia
- Biochemistry- AKI

- 45y/female
- Weakness, fungal pneumonia

- Cbc- leucocytosis with bicytopenia

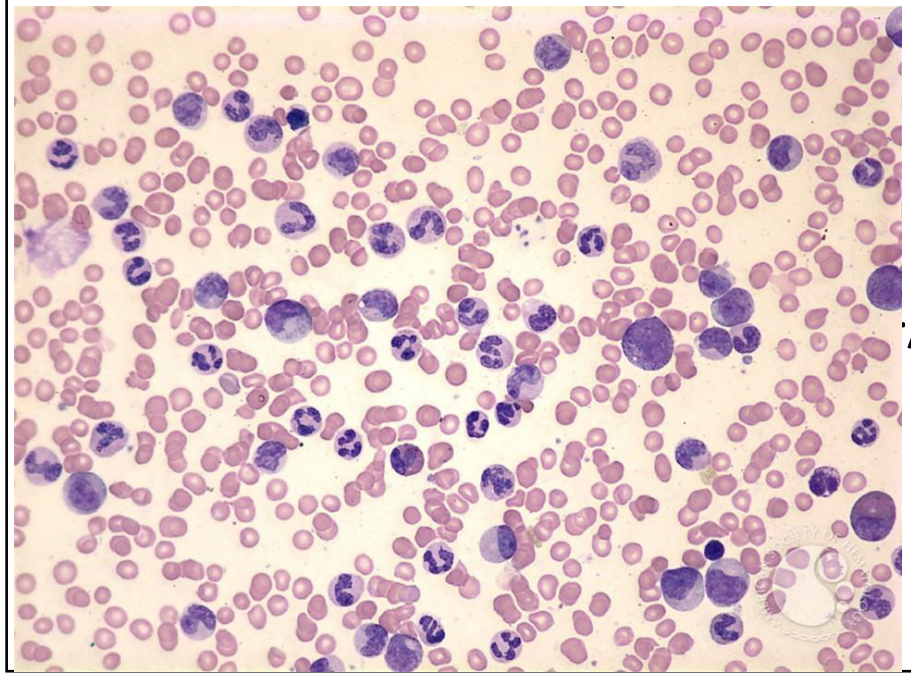




ACUTE LYMPHOBLASTIC LYMPHOMA

ACUTE MYELOID LEUKEMIA

- Mild weakness
- O/E- Splenomegaly



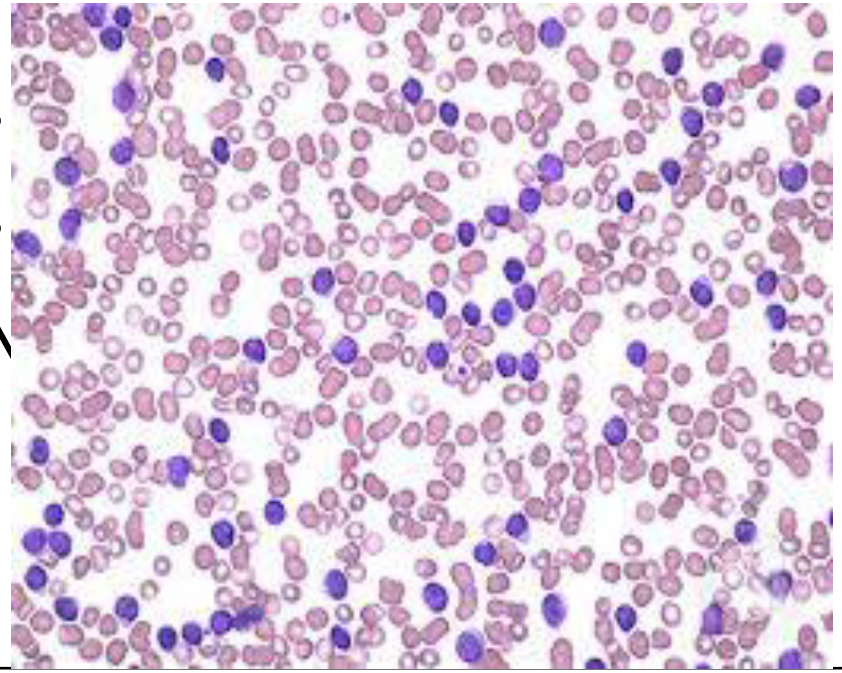
/MY

PBS- leucocytosis with left shift with myelocyte bulge

BCR-ABL1 PCR(PB)- +p210 transcript

CML-CP

- O/E-Axillary, cervical LAP
-
-
N



PBS- absolute lymphocytosis with presence of smudge cells
Immunophenotype- Monoclonal B cells with CD5+/CD23+/ CD200+/Kappa LC restriction

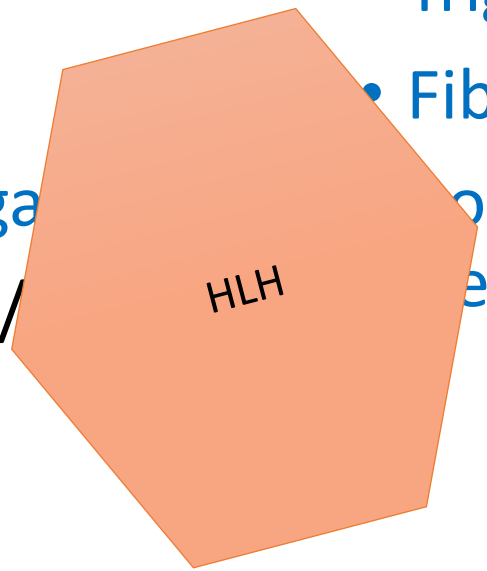
CLL

Case Scenario

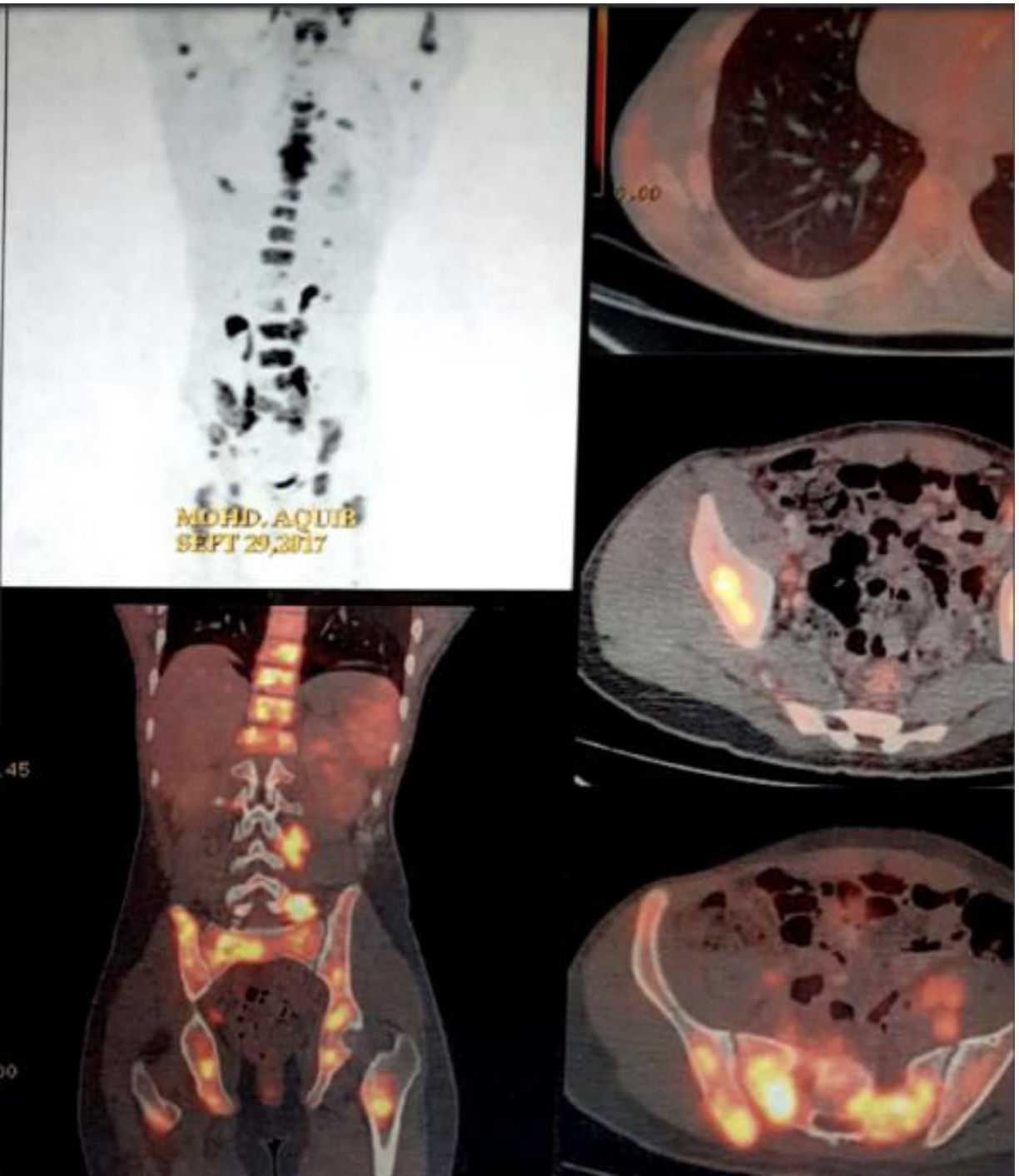
- 24y old male with
  - Hectic Fever
  - Jaundice
  - weight loss

  - O/E- Palor
  - Mild splenomegaly

- Cbc-8.6/4000/79000
- Bilirubin (T/D)-1.8/1.2
- SGOT/PT/ALP- MILDLY RAISED
- KFT-WNL
- Chest X ray
- USG- Hepatosplenomega
- Repeated blood culture/ culture- sterile



- CRP-Elevated
- LDH >3 times Elevated
- Ferritin-10,100
- Triglycerides-460
- Fibrinogen- reduced
- one marrow- emophagocytosis



BIOPSY-Hodgkins lymphoma

HLH-

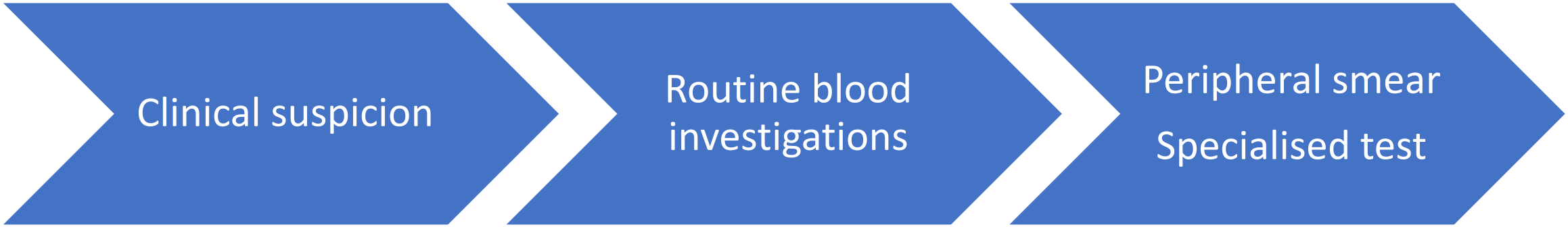
- In adults is mostly secondary.
- Many studies showed malignancy as the most common identified trigger in adults with HLH (45%)

- *Rivière S, Galicier L, Coppo P, Marzac C, Aumont C, Lambotte O, et al. Reactive hemophagocytic syndrome in adults: a retrospective analysis of 162 patients. Am J Med. 2014 Nov;127(11):1118–25*
- *Li J, Wang Q, Zheng W, Ma J, Zhang W, Wang W, et al. Hemophagocytic lymphohistiocytosis: clinical analysis of 103 adult patients. Medicine (Baltimore). 2014 Mar;93(2):100–5.*

EMERGENCIES !! THAT CAN BE D INITIAL PRESENTATION

- TUMOR LYSIS- AKI/CARDIAC ARRYTHMIAS/SEIZURES
- HYPERCALCEMIA-AKI/ALTERED SENSORIUM/SEIZURES
- HYPERLEUCOCYTOSIS-LEUKOSTASIS- ARDS/NEUROLOGICAL DEFICIT
- HYPERVISCOSITY-RETINAL VESSEL OCCLUSION/STROKE
- DIC- BLEEDING
- SUPERIOR VENA CAVA SYNDROME
- SEVERE SEPSIS/FULMINANT INFECTIONS
- NEUTROPENIC FEVER

Approach hematological malignancy



- CBC
  - HB/RBC
    - ANEMIA/erythrocytosis
    - RBC INDICES
  - WBC
    - **DIFFERENTIAL COUNT**
  - PLATELET COUNT
    - NUMBER

PERIPHERAL SMEAR

- RBC – NORMO/MICRO/MACROCYTIC, SCHISTOCYTES
- WBC- DESCRIPTION- SEGMENTATION, GRANULES,ABNORMAL CELLS
- PLATELET- GIANT PLATELETS

HISTOPATHOLOGY

- BONE MARROW
  - MORPHOLOGY
    - ASPIRATION/BIOPSY

- LYMPH NODE BIOPSY
  - EXCISION/TRU CUT
  - Morphology

SPECIFIC TESTS

- IHC
- FLOWCYTOMETRY
- MOLECULAR STUIDIES: CYTOGENETICS, PCR, NGS

- SERUM PROTEIN ELECTROPHORESIS
- IMMUNOFIXATION
- SERUM FREE LIGHT CHAIN ASSAY

RADIOLOGICAL

- SKELETAL SURVEY
- CT CHEST/ABDOMEN
- PET-CT
- MRI

TAKE HOME

- GOOD HISTORY N CLINICAL EXAMINATION-MUST
- READ THE REPORTS THOROUGHLY- SUBTLE HINTS
- KNOW THE EMERGENCIES
- TALK N DISCUSS WITH YOUR LAB COLLEGUES

BLK-MAX
Super Speciality Hospital

Thank You

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