CLL / SLL
(Chronic Lymphocytic Leukemia / Small Lymphocytic Lymphoma)

(↑ Lymphocytes for a long pd. of time)

→ m.c. leukemia in elderly

→ When extent of CLL ↑ses ⟹ Small masses of lymphocyte forms in lymphoid tissue K/a SLL

Patho :-

* **Deletion** :- 13q, 11q, 17p

} Deletion ⇓ overexpression of antiapoptotic protein BCL-2

* **Trisomy** :- 12q

* **BTK gene** (Bruton Tyrosine Kinase) gene mutation

↓

↑ BTK protein ⊘ BTK inhibitors

↓

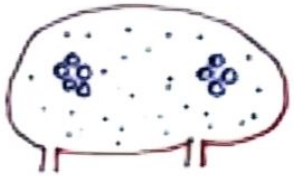
↑ B-cells growth & survival

↓

Ig's → Antibodies → RBC ⟹ Autoimmune Hemolytic Anemia

Antibodies → platelet ⟹ Thrombocytopenia

Morpho :-



Lymph Node

- Diffuse effacement by ↑ small lymphocyte
- Proliferation centers[BB]
  - ↳ pathognomonic for CLL/SLL
  - ↳ Are aggregates of large lymphocytes (prolymphocytes) in background of small lymphocytes

BM aspirate

↓

Lymphocytosis

Blood

- ↑ small round Lymphocytes
- Smudge cells[A] (During smear preperation)

↓

- Lymphocytes loose vimentin (cytoskeletal protein)

↓

- Cytoplasm fragile

↓

Smudge cell / Basket cell / Parachute cell

All lymphocytes looks similar

⇓

A/K/a convent girls appearance

Immunophenotyping :-

- CLL/SLL expresses all B-cell markers (CD19, CD20, CD23, CD5, BCL-2)

C/F :-

- Adults
- Diagnosis age = 60 yrs
- Male > female

Asymptomatic

↓

Non specific symptoms
- Anorexia
- Wt. loss
- Fatigue

↓

Specific symptoms
- Hepatosplenomegaly
- Lymphadenopathy
- Hypogammaglobulinemia (↑ Risk of infection)

- **Worst prognosis if :-**
  - Deletion of 11q & 17p
  - Expression of ZAP-70
  - NOTCH1 mutation.
- CLL/SLL —transform→ DLBCL (Diffuse large B-cell Lymphoma)
  - TP53 (mutation)
  - MYC (mutation)

K/a **Richter Syndrome**

(CF:- Tumor within LN/spleen)