The background is a light blue gradient with several white butterfly silhouettes scattered across it. The text is centered and written in a bold, magenta font.

# **Chronic Lymphocytic Leukemia**

# DEFENITION

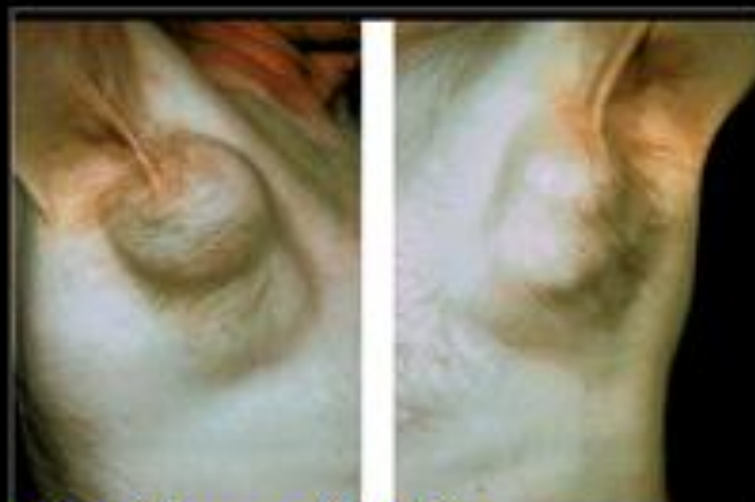
- Is a **neoplastic disease** characterized by the accumulation of small mature-appearing lymphocytes in the blood, bone marrow and lymphoid tissues .
- The neoplastic lymphocytes are in **> 98% of B-cell lineage**, in **< 2% the neoplastic cells are of T-cell lineage** .
- It is disease of **elderly** and middle aged , 90% >50 years of age.
- It occurs 2x more frequently in **males** than females.

# Clinical findings

- More than 25% of patients are **asymptomatic** at diagnosis.
- Majority of patients present with Lymphadenopathy, Splenomegaly, less so hepatomegaly, signs & symptoms of **anemia**, or **bleeding manifestations**
- Non-tender Symmetrical **Lymphadenopathy** in ~ 80%:
- Splenomegaly, hepatomegaly, and purpuric spots
- **Reduced Immunity**

**Non-tender Symmetrical  
Lymphadenopathy in ~  
80%:**

**Most commonly cervical,  
supra-clavicular and**



**Axillary LAP**



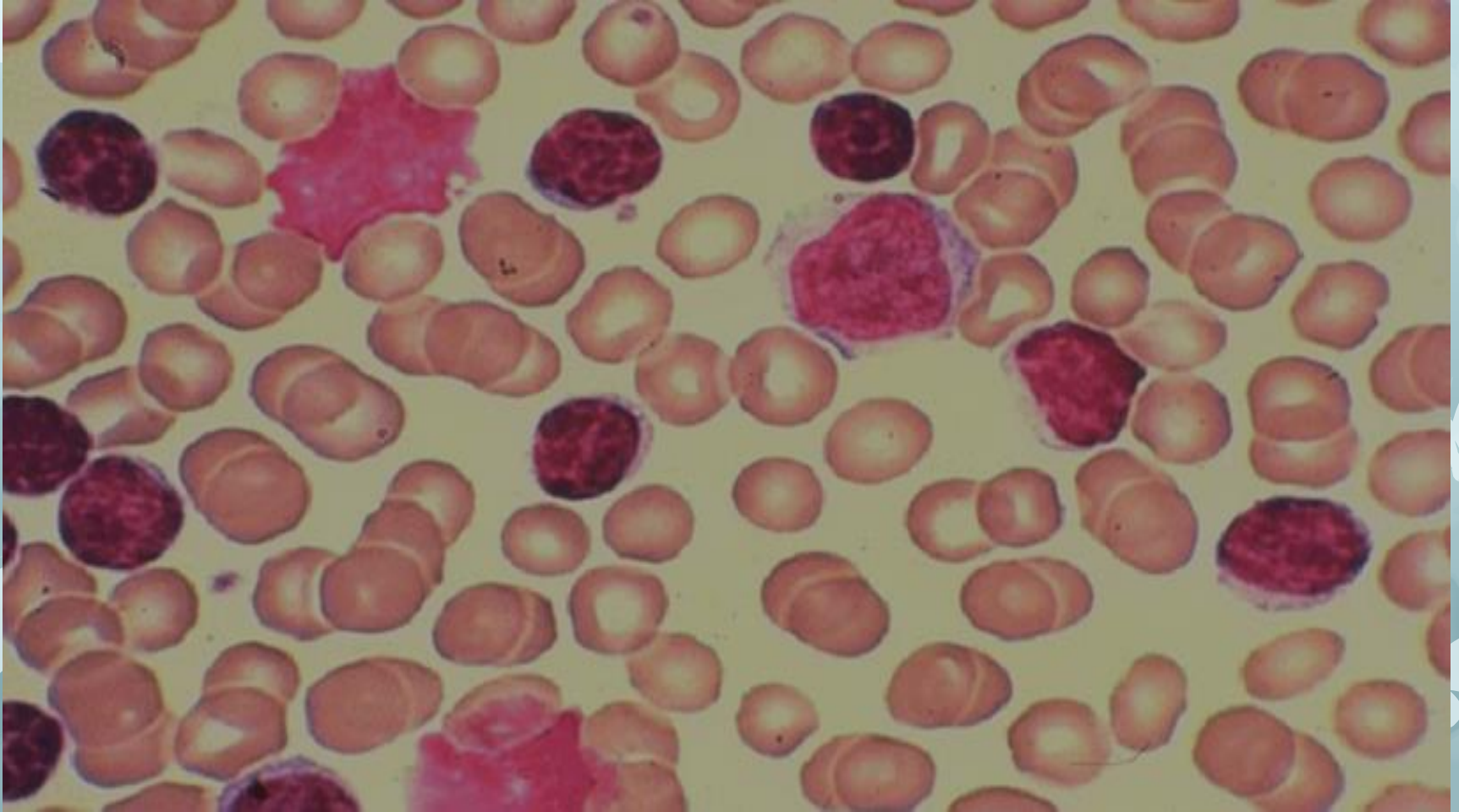
**Cervical LAP**

**Clinical features  
in CLL**

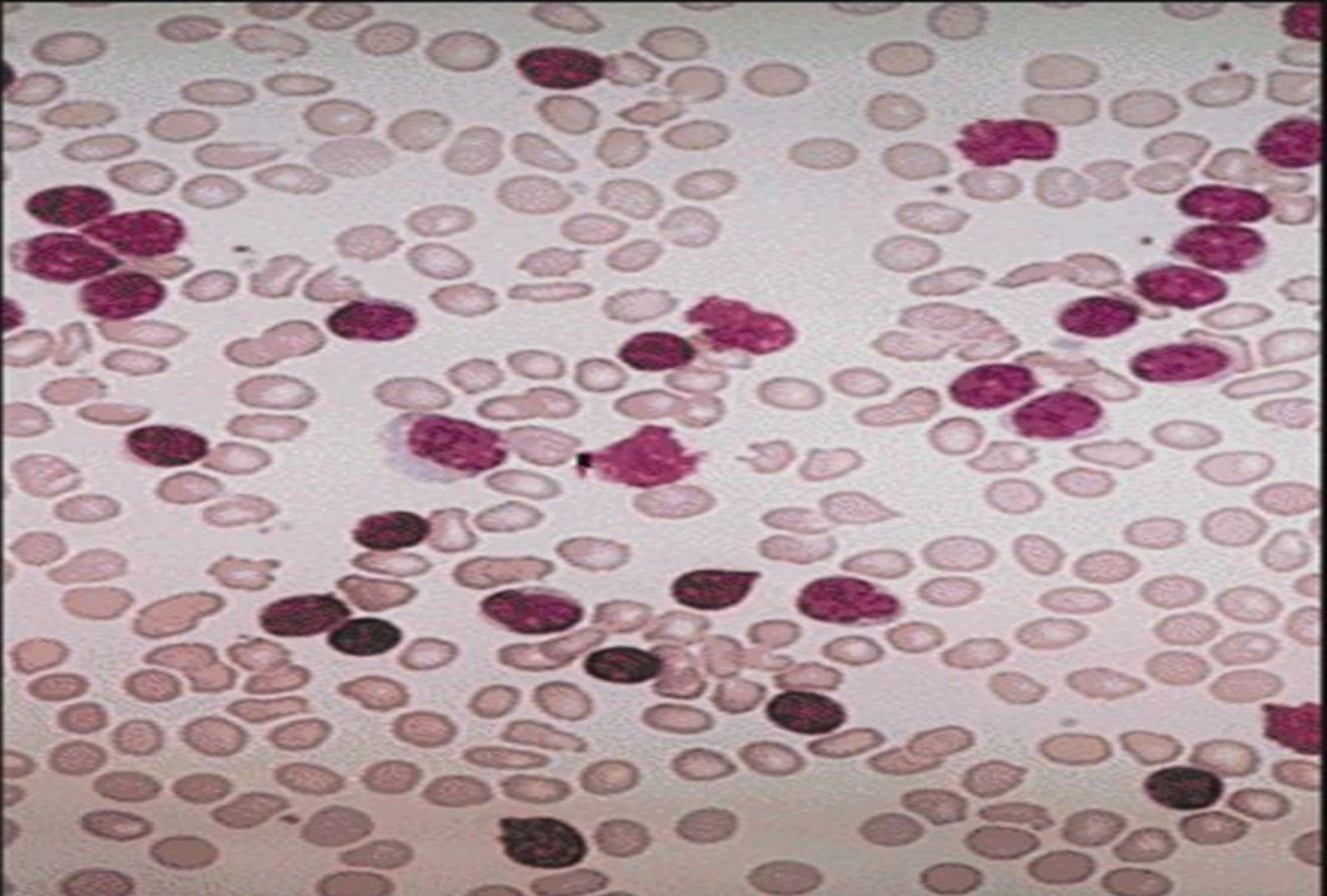
# Diagnosis of CLL

- **Lymphocytosis** at least  $10 \times 10^9/L$  or  $> 5 \times 10^9/L$  if monoclonality (by light chain restriction) is confirmed.
- **Bone marrow Lymphocytes**  $>40\%$ .
- **Prolymphocytes**  $< 10\%$ .
- IP:(smIg weak, CD 20 weak ,CD 19,23,5 +VE)

# Blood Film in CLL



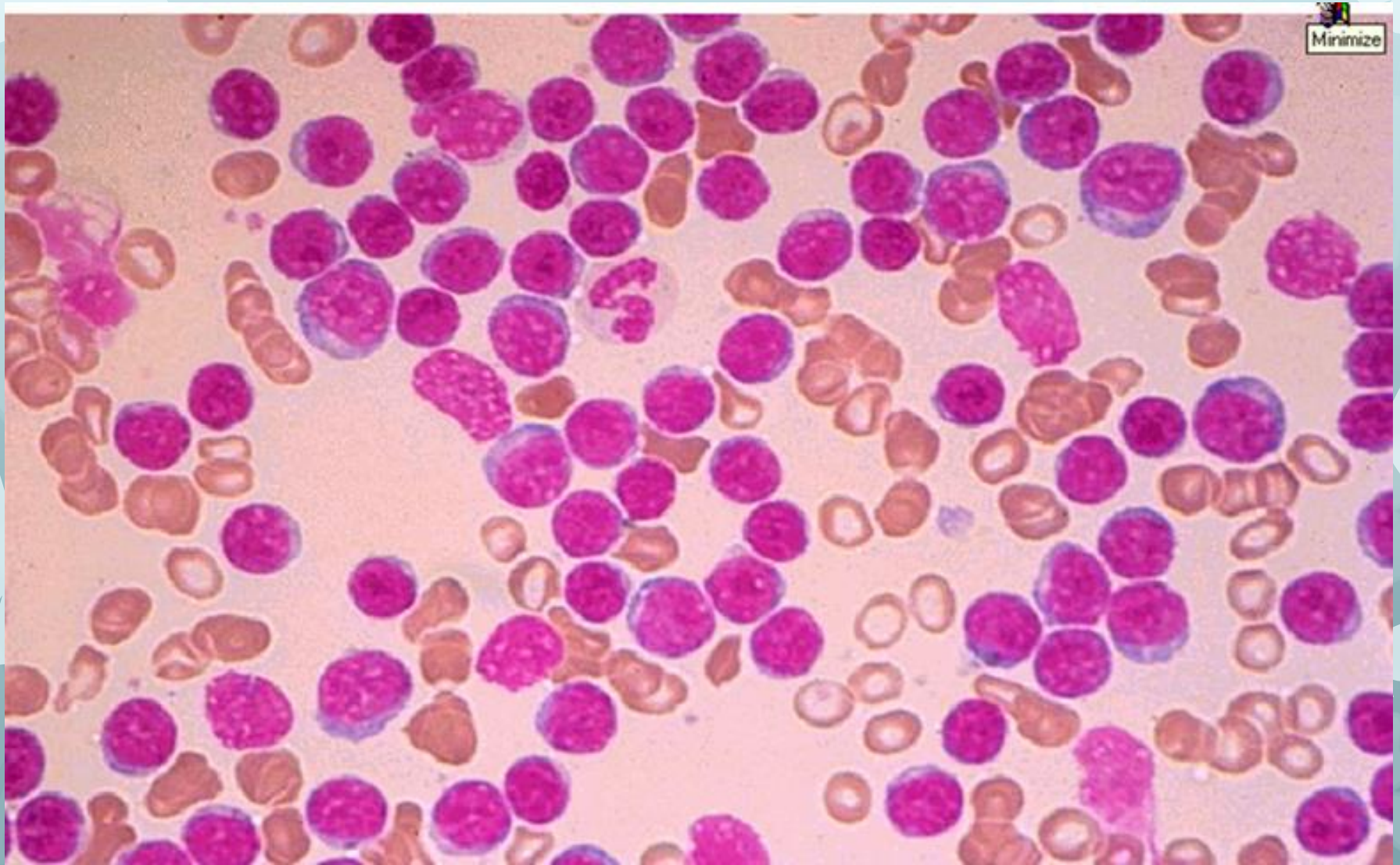
**Lymphocytosis  $>10\ 000/\text{cmm}$**   
**Frequent smudge Cells**



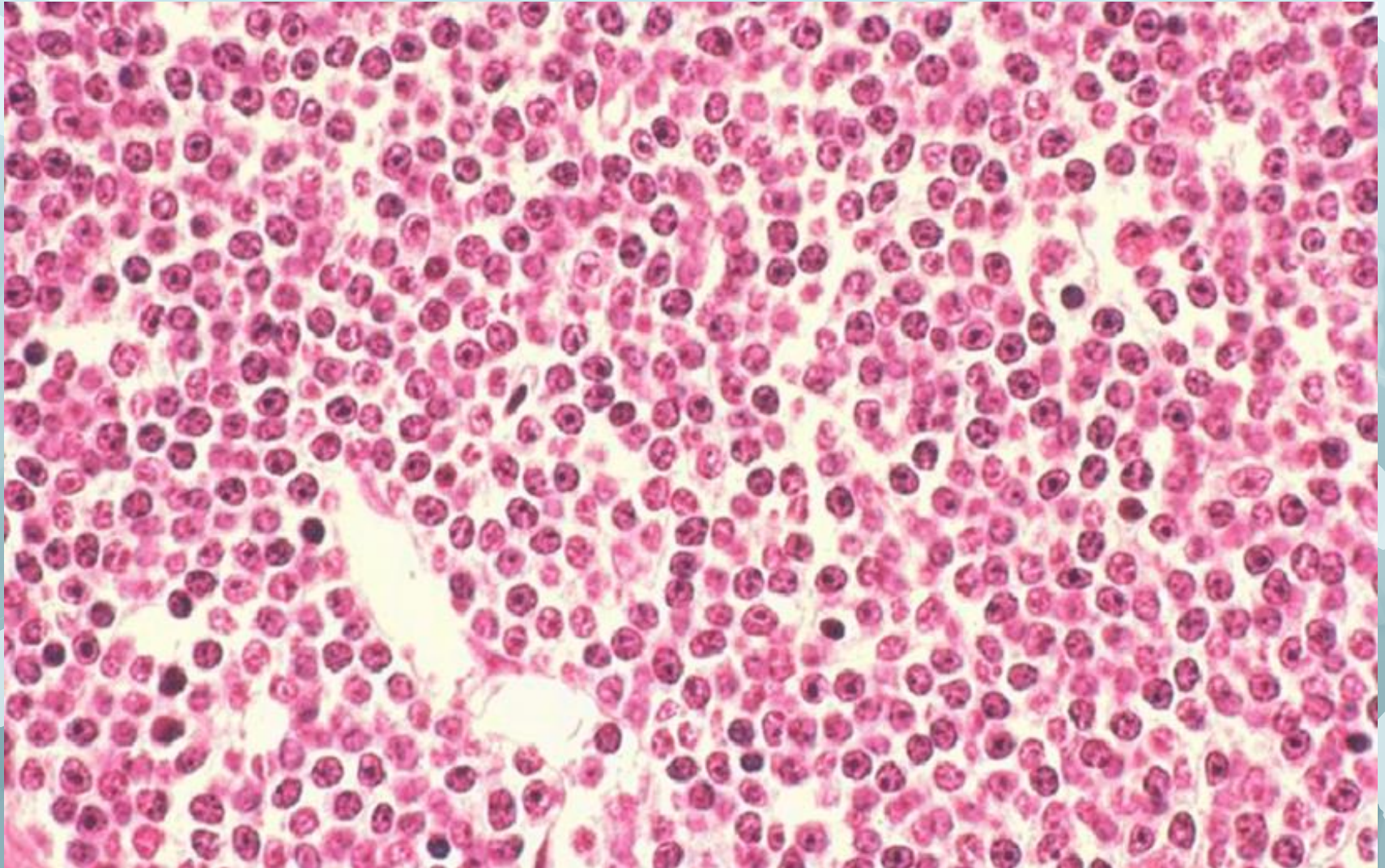
# Bone marrow study:

**-aspirate**

**-biopsy**



# Bone marrow biopsy in advanced CLL



# Binet Clinical staging:

## Median Survival

Stage A : Blood and marrow lymphocytosis and less than 3 areas of palpable lymphoid enlargement

> 7 years

Stage B : Blood and marrow lymphocytosis and 3 or more areas of lymphoid enlargement.

2-5 years

Stage C : Any of the above with Anaemia (Hb < 11g/dl in males or 10 g/dl in females), or thrombocytopenia (Platelets < 100 000/cmm)

< 2 years

# Treatment of CLL :

- ❑ The following are guidelines for treatment:
  - **In stage A** : observe, if any progression treat, otherwise do not.
  - **Since most Stage B cases** tend to progress, it is advisable to treat.
  - **Stage C** is a definite indication for treatment.
- Treatment modalities available :
  - ✓ Either minimally toxic single agents like Chlormabucil, Fludarabine (Purine analogue).
  - ✓ Or Combinations of Fludarabine with cytotoxics.
  - ✓ Or combinations of cytotoxics like CHOP, COP,
  - ✓ More recently esp. if Younger than 55yr, BMT

# Prognostic factors in CLL

- Clinical staging.
- Histological patterns. This is the best single prognostic factor in CLL.
- Lymphocyte counts :  $> 50 \times 10^9/L$  poor prognosis.
- Lymphocytes doubling times: If less than 12 months (poor).
- Karyotyping:
  - Age: More than 60yr and Male sex (poor prognosis)
  - Response to treatment



Thank  
you!!