

CLL Review Handout

CLL Diagnosis

Peripheral Smear

Mature lymphocytes, "soccer-ball" nucleus, smudge cells

Flow Cytometry

Monoclonal B cell population
 CD5+, CD23+
 CD19+, CD20 dim (B-cell markers)
 Single immunoglobulin light chain
 * Don't need bone marrow for diagnosis

Cytogenetics

Del(11q), del(13q), del(17p), trisomy 12

SLL = small lymphocytic leukemia

Monoclonal B-lymphocytes
 < 5,000 cells/mcl

CLL = chronic lymphocytic leukemia

Monoclonal B-lymphocytes
 > 5,000 cells/mcl

CLL Risk

Good Risk

Intermediate Risk

Poor Risk

Deletion 13q

Trisomy 12

Deletion 11q

IgVH

Deletion 17p
 (TP53)

CLL Staging

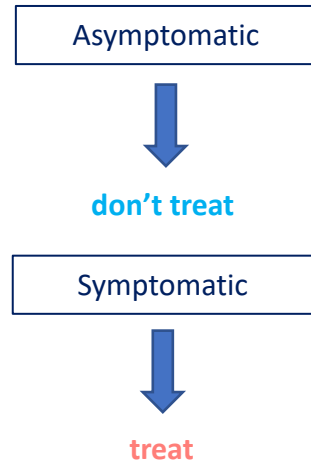
Rai Staging System		OS (years)
Low 0	Lymphocytosis	> 10
Intermediate I-II	LAD HSM	7
High Risk III-IV	Anemia Thrombocytopenia	2

Binet Staging System		OS (years)
A	< 3 nodal sites Hb >10, plt >100	> 7
B	> 3 nodal sites Hb >10, plt >100	< 5
C	Cytopenias Hb <10, plt <100	< 2

CLL Symptoms

COMPLICATION	SYMPTOM/LAB FINDING
Leukocytosis	Peripheral mature lymphocytosis, Smudge cells Fatigue, LAD, HSM
Anemia Myelophthisic	Fatigue, Pallor, SOB, Peripheral teardrop RBCs
Thrombocytopenia Myelophthisic	Petechiae, Mucocutaneous bleeding
Autoimmune Hemolytic Anemia	+ Hemolysis labs + DAT/Coombs Test
Hypogammaglobulinemia	Recurrent sinopulmonary infections
Richter's Transformation Transformation to lymphoma	Hypercalcemia, Rising LDH, LAD, B-symptoms, Pancytopenia
Red Cell Aplasia	Anemia

CLL Treatment



no del17

Ibrutinib

Acalabrutinib + Obinutuzumab

Venetoclax + Obinutuzumab

Fludarabine +/- Cyclophosphamide + Rituximab (FCR)

Bendamustine + Rituximab (BR)

Pentostatin + Cyclophosphamide + Rituximab (PCR)

del17

Ibrutinib

Acalabrutinib + Obinutuzumab

Venetoclax + Obinutuzumab

Old/Poor PS

Ibrutinib

Acalabrutinib + Obinutuzumab

Venetoclax + Obinutuzumab

Chlorambucil + Obinutuzumab

CLL Drug Side Effects & Complications

Ibrutinib

Afib
Anti-platelet effect
Peripheral lymphocytosis
Diarrhea
Rash

* Acalabrutinib has lower risk of afib

COMPLICATION	MANAGEMENT
Leukocytosis	<ul style="list-style-type: none"> No need to treat if asymptomatic otherwise Rare to get leukostasis with small mature cells Lymphocyte doubling time can be indication for treatment
Anemia	<ul style="list-style-type: none"> Transfusions Growth factor support (EPO)
Thrombocytopenia	<ul style="list-style-type: none"> Transfusions Growth factor support (nplate)
Autoimmune Hemolytic Anemia	<ul style="list-style-type: none"> Start systemic treatment Consider steroids
Hypogammaglobulinemia	<ul style="list-style-type: none"> Monthly IVIG if IgG < 500 mg/dL
Richter's Transformation	<ul style="list-style-type: none"> Treat as lymphoma