Chronic Lymphocytic Leukemia

Epidemiology

CLL represents ≈1.1% of all new cancer cases in the US[1]

Each year, 4.7 new cases develop among every 100,000 people[1]

In 2019, there were an estimated 200,766 people living with CLL in the US[1]

5-year relative survival for patients with CLL has steadily increased over time[1,2]

1975
65.1%

2012-2018
87.9%

Initial Diagnosis

CLL is often asymptomatic at initial presentation[3]

B symptoms: ≈5-10% of cases[3]

Unexplained fevers (>100.5)

Unintentional weight loss

Drenching night sweats

Additional symptoms[3]**:**

Early satiety

Extreme fatigue

Lymphadenopathy

Splenomegaly

Hepatomegaly

Cutaneous manifestations

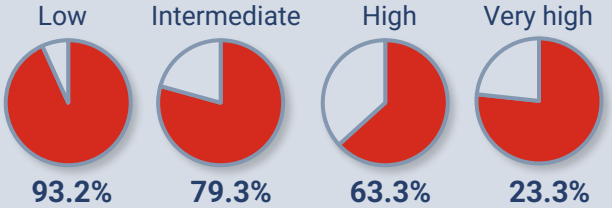
Disease Staging and Prognostic Biomarkers

Rai and Binet staging systems

Although widely used in clinical practice, the Rai and Binet classifications are not sufficient to determine if the patient will present with rapidly progressive or indolent disease. Currently, genetic, epigenetic, and molecular markers are the focus of attention in prognostication of CLL[4]

The **CLL-IPI** combines genetic, biochemical, and clinical parameters into a prognostic model with 4 subgroups[2,5]

5-year survival by CLL-IPI risk group



Genetic marker[6,7]	Frequency in CLL patients[6-8]	Importance[6,7]
Altered *TP53*	**80%** with del(17p)	Associated with aggressive disease and poor response to CIT
Del(13q)	**55%**	Favorable prognosis
Unmutated *IGHV*	Nearly **40%**	Aggressive disease
Trisomy 12	**16%**	Intermediate risk
Del(17p)	**1 in 10**	Associated with aggressive disease and poor response to CIT
Del(11q)	**1 in 5**	Progressive disease

Treatment Considerations

Diagnosis[9]

- Many patients are asymptomatic at diagnosis when observation is the standard of care
- Consider surveillance when discussing treatment options

First-line therapy options[9]

- Therapy is often necessary once disease is symptomatic
- Prognostic modeling with the CLL-IPI, along with consideration for functional status, comorbidities, and patient preference, may guide treatment options

R/R therapy options[9,10]

- Therapy options for R/R CLL are based on the patient's response to previous line(s) of therapy, including timing of progression, tolerance to prior therapy, and patient goals
- Repeat testing of del17p/*TP53* may also help guide later lines of therapy

CIT, chemoimmunotherapy; CLL-IPI, International Prognostic Index for Chronic Lymphocytic Leukemia; R/R, relapsed or refractory.

References: 1. SEER. Accessed September 30, 2022. https://seer.cancer.gov/statfacts/html/clyl.html. 2. Hallek M, Al-Sawaf O. *Am J Hematol*. 2021;96(12):1679-1705. 3. Mukkamalla SKR, et al. StatPearls Publishing; 2023. https://www.ncbi.nlm.nih.gov/books/NBK470433/. 4. Stefaniuk P, et al. *Cancer Manag Res*. 2021;13:1459-1476. 5. International CLL-IPI Working Group. *Lancet Oncol*. 2016;17(6):779-790. 6. Leukemia & Lymphoma Society. Accessed March 30, 2023. https://www.lls.org/sites/default/files/file_assets/PS34_CLL_Booklet_2019_FINAL.pdf. 7. Yun X, et al. *Biomark Res*. 2020;8:40. 8. Campo E, et al. *Haematologica*. 2018;103(12):1956-1968. 9. Shadman M. *JAMA*. 2023;329(11):918-932. 10. Hallek M, et al. *Blood*. 2018;131(25):2745-2760.