

# Nursing Guidelines for Managing Infections in Patients With Chronic Lymphocytic Leukemia

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Infections are a primary cause of death in patients with chronic lymphocytic leukemia (CLL). Such individuals are particularly susceptible to infectious complications stemming from immune deficits associated with the primary disease process and with immunosuppression secondary to treatment. Although the recent availability of new treatment modalities and more aggressive therapies are improving outcomes for patients with CLL, standardized approaches are needed so that nurses can monitor for and manage infections. The aim is overall reduction in morbidity and mortality, as well as improvement in quality of life. The current pharmacologic therapies for CLL are alkylating agents, purine nucleoside analogs, monoclonal antibodies, and combinations of those therapies, which may present their own unique risks for and different spectra of infectious events. This article provides an overview of the known risks for developing infections in CLL, as well as nursing guidelines for monitoring and managing patients with CLL.

In 2007, an estimated 15,340 individuals in the United States will be diagnosed with chronic lymphocytic leukemia (CLL) and 4,500 patients will die as a result of the disease (Jemal et al., 2007). CLL is the second most commonly diagnosed leukemia in Western countries, occurring primarily in middle-aged and older adults, with increasing frequency in successive decades of life.

The most common presenting symptom in CLL is lymphadenopathy, although some patients report fever, weight loss, or night sweats (Rai et al., 1975). About 70%–80% of patients are asymptomatic and are diagnosed after a routine blood count shows lymphocytosis (Abbott, 2006; Oscier et al., 2004). A definitive diagnosis of CLL is based on the combination of lymphocytosis and characteristic lymphocyte morphology and immunophenotype (Oscier et al.). Bone marrow examination may be used to aid in the diagnosis of CLL and can be particularly helpful in determining the cause of cytopenias, as well as providing prognostic information and serial assessment of response to therapy.

Stage of CLL is determined based on the Rai and Binet clinical staging systems in the United States and Europe, respectively (Binet et al., 1981; Rai et al., 1975) (see Figure 1). The staging systems are used to categorize the extent of lymphocytosis, presence of cytopenias, and organ involvement; they have been used to predict the natural course of disease and the need for therapy. An understanding of the disease processes in CLL, including the development of cytopenias delineated in the staging criteria, allows for more effective nursing care. Patient survival varies based on stage of disease and ranges from less

## At a Glance

- ◆ Patients with chronic lymphocytic leukemia (CLL) are susceptible to infectious complications caused by immune deficits associated with the primary disease process and immunosuppression secondary to treatment.
- ◆ Infectious complications remain a primary cause of morbidity and mortality in patients with CLL; nursing assessments and real-time patient management are essential to decreasing infection-related morbidity and mortality.
- ◆ Nurses play a key role in providing patient and caregiver education and in facilitating patient adherence to anti-infective treatments to minimize infectious complications.

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