

Treatment of Chronic Lymphocytic Leukemia With Alemtuzumab: A Review for Nurses

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Purpose/Objectives: To review the use of the monoclonal antibody alemtuzumab in patients with advanced refractory B cell chronic lymphocytic leukemia (B-CLL) and nursing management during treatment.

Data Sources: Published articles, abstracts, book chapters, Web sites, and training material.

Data Synthesis: Alemtuzumab can achieve disease remission in patients with chemorefractory B-CLL; however, management of high-risk patients presents certain challenges. Infusion-related events can be minimized by stepwise administration and appropriate prophylaxis. Cytopenia can be minimized by drug postponement and cytokine support or red blood cell or platelet transfusions. Patients also are at risk for infection because of lymphopenia, and anti-infective prophylaxis is mandatory at initiation of therapy until at least two months post-treatment.

Conclusions: With satisfactory supportive measures in place, patients with chemorefractory B-CLL can experience the benefits of alemtuzumab therapy without excessive toxicity.

Implications for Nursing: Nurses should be familiar with treatment and prophylactic protocols, be ready to offer supportive therapy to control side effects, and invest time in patient education.

Key Points . . .

- B cell chronic lymphocytic leukemia is the most common leukemia in the Western world.
- Alemtuzumab has a different mode of action than chemotherapy.
- Alemtuzumab can induce responses in patients who have not responded to available therapy.
- Appropriate prophylaxis is vital to successful treatment of high-risk patients.

Goal for CE Enrollees:

To further enhance nurses' knowledge regarding the treatment of patients with B cell chronic lymphocytic leukemia with alemtuzumab.

Objectives for CE Enrollees:

On completion of this CE, the participant will be able to

1. Describe the mode of action and efficacy of alemtuzumab.
2. Describe the appropriate method of administration of alemtuzumab.
3. Discuss the nursing implications in the care of patients receiving alemtuzumab.

The most common type of leukemia in the Western world is B cell chronic lymphocytic leukemia (B-CLL). Its incidence in the United States is estimated to be more than 8,000 new cases annually (Edwards et al., 1002; Ries et al., 2000). As a disease of the elderly, its prevalence is increasing as the age of the population increases. Key B-CLL characteristics and symptoms of advanced disease are shown in Figure 1. Lymphadenopathy or splenomegaly are seen in about half of patients at diagnosis and become more common as the disease progresses.

About one-third of patients have progressive disease at presentation requiring immediate treatment. In another third, an initially indolent course is followed by disease progression, and the remaining third never require treatment and die from causes unrelated to B-CLL (Dighiero & Binet, 2000).

In the United States, the Rai staging system (Rai et al., 1975), and in Europe, the Binet staging system (Binet et al., 1981) are used to stratify patients according to extent of disease and to identify high-risk patients who require treatment (see Figure 2). Patients eligible for treatment with alemtuzumab (Campath®, Berlex Laboratories, Richmond, CA) for

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