

## CONTINUING EDUCATION

# Effects of Darbepoetin Alfa Administered Every Two Weeks on Hemoglobin and Quality of Life of Patients Receiving Chemotherapy

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**Purpose/Objectives:** To review the effects on hemoglobin and quality of life of an every-two-week (Q2W) regimen of the erythropoietic agent darbepoetin alfa for treating patients with chemotherapy-induced anemia.

**Data Sources:** Published articles and abstracts.

**Data Synthesis:** Darbepoetin alfa Q2W increases hemoglobin in patients with chemotherapy-associated anemia and is well tolerated. Increased hemoglobin is associated with improvements in fatigue and energy level. A starting dose of darbepoetin alfa 3.0 mcg/kg (approximately 200 mcg for an average 70 kg patient) Q2W produces a similar level of response to recombinant human erythropoietin.

**Conclusions:** Darbepoetin alfa effectively treats chemotherapy-associated anemia with fewer clinic visits and fewer injections than are required with conventional erythropoietic therapy.

**Implications for Nursing:** The less-frequent dosing schedule of darbepoetin alfa can simplify anemia management for nurses and other clinic staff, and it offers patients greater freedom in their day-to-day activities, less dependence on caregivers, and less injection-associated discomfort.

In recent years, much attention has been focused on anemia in patients with cancer and its effect on their health-related quality of life (QOL). Anemia is highly prevalent in patients with cancer, either as a result of the cancer itself or as a consequence of treatments, be they chemotherapy, radiation, or surgery (Groopman & Itri, 1999; Johnston & Crawford, 1998; Mercadante, Gebbia, Marrazzo, & Filosto, 2000; Tchekmedyian, 2002). More than half of all patients with cancer may be affected by anemia (Gillespie, 2002; Johnston & Crawford). In addition to myelosuppressive or nephrotoxic chemotherapy, underlying causes of anemia in patients with cancer include destruction or displacement of bone marrow, bleeding, nutritional deficiencies, and chronic anemia of cancer (Erslev, 2000; Mercadante et al.). Hemolytic anemia also may occur in lymphoproliferative disorders, such as chronic lymphocytic leukemia and lymphoma, because of the destruction of red blood cells (RBCs) through an inappropriate autoimmune response (Montserrat, Bosch, & Rozman, 1997).

Anemia is associated with a range of debilitating symptoms, in particular fatigue (Cella, 1998, 2002; Curt, 2000; Holzner et al., 2002; Ludwig & Pecorelli, 2000). Fatigue can have significant effects on patients' QOL. For example, it can reduce

### Key Points . . .

- ▶ The erythropoietic agent darbepoetin alfa is effective and well tolerated when dosed every two weeks (Q2W), improving hemoglobin levels and reducing fatigue.
- ▶ Darbepoetin alfa dosed Q2W has similar efficacy to widely used weekly and three-times-weekly regimens of epoetin alfa.
- ▶ Darbepoetin alfa can improve patients' quality of life, directly through relief of anemia symptoms and indirectly through reduction of the frequency of injections and thus the number of clinic visits.

### Goal for CE Enrollees:

To enhance nurses' knowledge about the effects of darbepoetin alfa given every two weeks on hemoglobin and quality of life in patients with chemotherapy-induced anemia.

### Objectives for CE Enrollees:

- On completion of this CE, the participant will be able to
1. Discuss the impact of chemotherapy-induced anemia on patients with cancer.
  2. Outline the current evidence about the use of darbepoetin alfa in the treatment of chemotherapy-induced anemia.
  3. Compare the use of epoetin alfa and darbepoetin alfa in the treatment of patients with chemotherapy-induced anemia.

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