

# Epoetin Alfa: Current and Future Indications and Nursing Implications

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Patients with cancer are at high risk for treatment-related anemia that occurs as a result of myelosuppressive chemotherapy. Historically, treatment for this type of anemia has been ignored or limited to red blood cell (RBC) transfusions. As new generations of promising but increasingly more myelosuppressive agents emerge, greater toxicities will occur and require aggressive anemia management. Unfortunately, the phenomenon will happen concurrently with a worldwide decrease in blood supply, which will compound the problems of treating those who would benefit greatly from RBC transfusions. The purpose of this article is to acquaint oncology nurses with current guidelines and new research on indications, dosing, and administration of epoetin alfa for cancer-related anemia. The article is not intended to review the pathophysiology or symptom management of anemia, as an abundance of rich literature already exists (Cimprich, 1993; Clark & Lacasse, 1998; Ferrell, Grant, Dean, Funk, & Ly, 1996; Wunningham et al., 1994).

## Cancer-Related Anemia

The incidence, severity, treatment, and impact of cancer-related anemia have been addressed in numerous articles, clinical trials, and patient-education programs. Until recently, characterizing and measuring cancer-related anemia have been difficult because clinicians have long accepted the notion that anemia and its related symptoms were inevitable sequelae of cytotoxic treat-

Cancer-related anemia commonly is associated with fatigue and decreased quality of life (QOL). Treatment to achieve optimal hemoglobin levels in patients receiving chemotherapy can alleviate common symptoms of anemia and may allow patients to have more meaningful survival time while on chemotherapy. New studies have suggested that epoetin alfa (Procrit®, Ortho Biotech Products, LP, Raritan, NJ) can be administered safely and effectively once a week in patients with anemia other than those patients with cancer receiving concomitant chemotherapy. Preclinical studies and pilot clinical studies also have suggested a new application for epoetin alfa in improving cognitive function. Oncology nurses skilled at anticipating, assessing, and managing anemia and its symptoms can be instrumental in improving the QOL of patients with cancer. They should be aware of clinical trials that have suggested advantages of improved dosing schedules and new applications for epoetin alfa.

ment that must be endured. Consequently, various grading systems are used. Table 1 lists the most common anemia grading systems used in clinical practice and clinical trials.

Groopman and Itri (1999) reviewed the incidence and severity of chemotherapy-induced anemia in more than 115 published clinical trials that included the most common single agents and combination chemotherapeutic regimens used in the treatment of nonmyeloid malignancies. The investigators confirmed a relatively high incidence of mild to moderate anemia, as defined by the World Health Organization and the National Cancer Institute, induced by chemotherapy that included newer agents, such as gemcitabine, vinorelbine, paclitaxel, and docetaxel. Other

studies confirmed these observations. For example, Anastasia (2001) reported the hematologic effects of 452 patients with ovarian cancer treated with topotecan (Hycamtin®, GlaxoSmith-Kline, Philadelphia, PA) in four clinical trials. Median time to nadir for anemia was 15 days after the start of therapy, severe anemia occurred in 40% of patients, and 56% of those patients required blood transfusions.

Trastuzumab (Herceptin®, Genentech, Inc., South San Francisco, CA) is administered weekly to women with metastatic breast cancer until evidence of tumor progression. When given alone, little (4%) to no anemia occurs. However, when given every three weeks in combination with doxorubicin and paclitaxel or paclitaxel alone, anemia occurs in 14%–36% of women (Herceptin, 2002). The increasing severity of

anemia combined with the increasing number of patients with cancer and anemia will challenge oncology nurses in managing this often overlooked and undertreated condition.

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