Dosing Patterns and Clinical Outcomes of Erythropoietic Agents for the Treatment of Anemia in Patients With Nonmyeloid Malignancies Receiving Chemotherapy

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Origin of Study USA

Type of Study MULTICENTER, RETROSPECTIVE, COHORT DRUG-UTILIZATION STUDY

Study Design

Dosing and hemoglobin data were abstracted from consecutive medical charts of patients with chemotherapy-induced anemia initiated on epoetin alfa or darbepoetin alfa from April 1 to July 31, 2002, or from August 1 to October 4, 2002, respectively, at 16 hospital outpatient or community oncology clinics.

Thirteen weeks of chart data were analyzed using descriptive statistics.

Both intent-to-treat (ITT) and as-treated analyses were performed. For ITT, all participants were analyzed; missing data were imputed by carrying forward the last observed value. For as-treated analysis, data available at a given point were analyzed, and no imputation was used. Both analyses excluded hemoglobin values measured within 28 days of a blood transfusion.

Patients

Data were collected on 1,391 patients, including 752 (54%) treated with darbepoetin alfa and 639 (46%) with epoetin alfa.

Of 735 and 558 patients who received only darbepoetin alfa or epoetin alfa, respectively, 296 (45%) had breast cancer, including 172 patients (23%) receiving darbepoetin alfa and 124 (22%) receiving epoetin alfa.

Observations

The most frequently administered initial doses were darbepoetin alfa 200 µg every 2 weeks (75% of the group treated with darbepoetin alfa) and epoetin alfa 40,000 U weekly (74% of the epoetin alfa treatment group).

For those patients who received the most common dose of each agent, the dose was escalated for 11% of patients treated with darbepoetin alfa and 14% of those receiving epoetin alfa at a median of 7 weeks from the start of erythropoietic therapy. In this subset of patients, the mean change in hemoglobin from baseline after 12 weeks of treatment was 1.0 g/dL for both agents (ITT cohort) and 1.3 g/dL and 0.9 g/dL for darbepoetin alfa and epoetin alfa, respectively (as-treated cohort).

Over the 12-week treatment period, the number of patients in this subset receiving at least one red blood cell transfusion was 44 (8%) and 39 (9%) of those treated with darbepoetin alfa and epoetin alfa, respectively.

Conclusions

In patients with a variety of tumor types, including breast cancer, darbepoetin alfa 200 µg every 2 weeks is comparably effective to epoetin alfa 40,000 U weekly for treating chemotherapy-induced anemia and has been adopted in a broad cross-section of hospital outpatient and community oncology practices.

Discussion

There has been little information on the relative efficacy of darbepoetin alfa and epoetin alfa, but this large retrospective cohort study now provides data suggesting the two agents hare comparable efficacy in the outpatient or community oncology setting.

Dosing Patterns and Clinical Outcomes of Erythropoietic Therapy for Anemic Patients With Nonmyeloid Malignancies

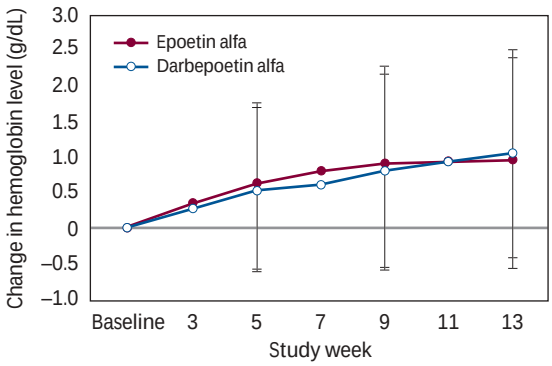
Dosing and hemoglobin data were abstracted by chart review of patients treated over 13 weeks at 16 community or hospital oncology clinics. The resulting data set provided detailed information on 1,391 patients, including 296 with breast cancer who were treated with only darbepoetin alfa or epoetin alfa.

The most frequently administered initial doses were darbepoetin alfa 200 µg every 2 weeks or epoetin alfa 40,000 U weekly. For patients who received the most common dose of each agent, doses were escalated for 11% of patients given darbepoetin alfa and 14% of those treated with epoetin alfa, at a median of approximately 7 weeks after initiation.

Mean change in hemoglobin level from baseline to 12 weeks was similar for both treatments in the ITT analysis (1.0 g/dL). In the as-treated analysis, however, darbepoetin alfa produced a significantly greater change: 1.3 g/dL vs 0.9 g/dL for epoetin alfa ($P < 0.01$). The incidence of red blood cell transfusions was also similar for both agents.

This study provides comparative data showing that every-2-week dosing with 200 µg of darbepoetin alfa is comparable in efficacy to 40,000 U weekly of epoetin alfa in a variety of tumor types, including breast cancer.

Mean Change in Hemoglobin Level Over Time



Key Points

- Treatment with darbepoetin alfa 200 µg every 2 weeks is comparable in efficacy to epoetin alfa 40,000 U weekly for treating patients with chemotherapy-induced anemia.
- The mean change in hemoglobin levels and need for transfusion are similar for the two agents.

References

Schwartzberg L, Shiffman R, Tomita D, Stolshek B, Rossi G, Adamson R. A multicenter retrospective cohort study of practice patterns and clinical outcomes of the use of darbepoetin alfa and epoetin alfa for chemotherapy-induced anemia. Clin Ther 2003;25:2781–2796.

Schwartzberg LS, Tomita DK, Stolshek BS. Dosing patterns and clinical outcomes of erythropoietic agents for the treatment of anemia in patients with nonmyeloid malignancies receiving chemotherapy. Poster presented at the 26th Annual San Antonio Breast Cancer Symposium; December 3–6, 2003; San Antonio, Tex. Abstract 641.