



National Retrospective Study of HIV/AIDS Patients Who Were Treated for Anemia with Red Blood Cell Growth Factors (RBCGF): Key Findings

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Abstract

A nationally representative sample of 150 AIDS-Treating Physicians (ATPs) who met a minimum volume criteria for HIV/AIDS and RBCGF-treated patients participated in the study. Physicians extracted detailed medical history and treatment information from the records of 479 randomly selected and anonymous HIV/AIDS patients with anemia who were or had been treated with red blood cell growth factor (RBCGF). Study data were returned to researchers by fax or mail. The mean hemoglobin level went down significantly between HIV diagnosis (12.2 g/dL) and initiation of RBCGF therapy (9.4 g/dL,) and went up significantly by the time of the patient records audit (12.3 g/dL). Mean hemoglobin values at points before, during, and after treatment are presented along with other key study findings.

Background and Objectives of Study

In a comprehensive review of the literature, Belperio and Rhew found that the prevalence of anemia in HIV disease varies considerably, ranging from 1.3% to 95%, depending upon several factors. They found that anemia is a statistically significant predictor of progression to the acquired immunodeficiency syndrome and independently associated with an increased risk of death in patients with HIV/AIDS (*Am J Med.* 2004 Apr 5;116 Suppl 7A:27S-43S). Henry and associates noted that correction of anemia with epoetin alfa has resulted in significant improvements in quality of life, physical functioning, and possibly prolongation of survival. These researchers concluded that current and future research is needed to clarify the role of epoetin alfa in the clinical management of the HIV-infected population (*J Acquir Immune Defic Syndr.* 2004 Oct 1;37(2):1221-1227). Erythropoietin agents are also referred to as red blood cell growth factors (RBCGFs).

The current study was conducted to foster a better understanding of the treatment of anemia in HIV/AIDS patients who are treated with RBCGF.

Methodology

Stratified nationally representative samples of 150 AIDS-treating physicians extracted detailed medical history and treatment information from the records of 479 randomly selected HIV/AIDS anemia patients who were being treated or had been treated with RBCGF. The physician sample consisted of IDs (52%), IMs (33%), FP/GPs (12%), and other specialties (3%). The last up to four qualified patients

treated by the physician were selected for the study. Study data were transmitted to researchers by fax or mail. Physician study participants personally treated at least eight HIV/AIDS patients during a typical month and treated at least four HIV/AIDS patients with RBCGF during the past six months. Statistical adjustments were made to ensure that each patient represented exactly the corresponding number of patients in the universe of total patients.

Key Findings of Study

- 64% of patients displayed AIDS indicator conditions at the time of chart review. Another 15% were “symptomatic”, and the remaining patients (21%) were “asymptomatic acute (primary) HIV or PGL.”
- Seven out of ten patients (70%) had one or more concomitant illnesses (hepatitis C – 25% of concomitant illnesses and hypertension – 17%), and 52% had at least one opportunistic infection (candidiasis - 40% of all patients with an OI).
- The most frequent class of ARVT was nucleoside reverse transcriptase inhibitor (NRTI). NRTI was prescribed for 69% of patients. Protease inhibitors (PI) were being used by 27% of the patients.
- For 38% of the patients who received a NRTI, the patient’s physician indicated that the drug made a “significant” or “moderate” contribution to the patient’s need for RBCGF. PIs collectively were rated as causing “significant” or “moderate” need for RBCGF for 16% of patients

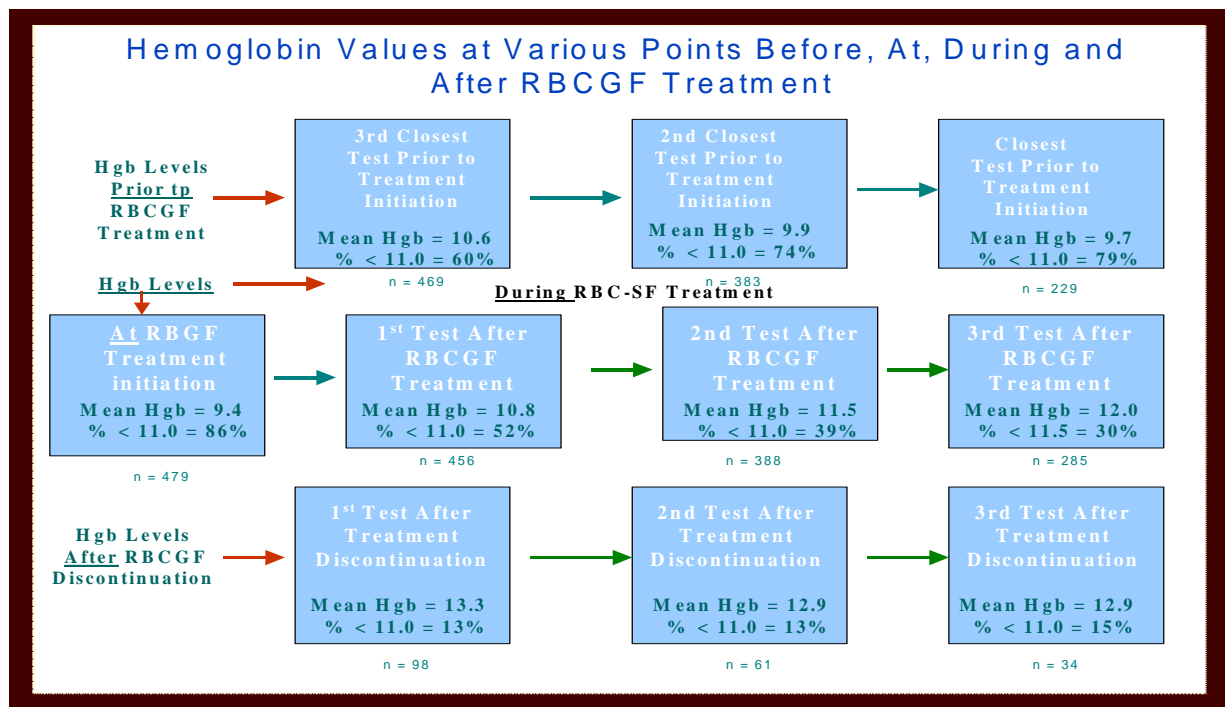
receiving this class of drug.

- The percentage of patients with a CD4⁺ count of 200 or less was 41% at HIV diagnosis and 42% at the time of the chart audit. (A healthy CD4 count for the average healthy person is between 500 and 1,500 cells/mm³).
- Mean viral load levels went up at each point after ARV therapy was initiated. For example, the mean percentage of patients with a viral load of >40,000 copies/mL at initial HIV/AIDS diagnosis was 30%, and 80% at the time of the chart audit.
- By study design, all patients received RBCGF. 16% of patients also received one or more packed red blood cell (PRBC) transfusions during the six-month period leading up to and during RBCGF usage in 2004, and the mean hemoglobin level that triggered the most recent PRBC transfusion was 6.8 g/dL.

Hemoglobin Values at Various Points During Treatment Process:

Mean hemoglobin values at points before, during, and after RBCGF treatment are presented below. These findings reflect a clear trend. The hemoglobin values begin dropping prior to RBCGF therapy, reaching a low point at RBCGF initiation, then increase during RBCGF treatment, eventually climbing into the normal range on average, and sustained during at least the first three hemoglobin tests after RBCGF is discontinued.

More than 17 out of 20 patients (86%) had a Hgb value of less than 11.0 g/dL at the start of RBCGF therapy. By the third Hgb test after RBCGF discontinuation, only 15% of the patients had a Hgb value of less than 11.0 Hgb.



About the Authors

Thomas Orsagh, Ph.D., is an internationally recognized economist who has made numerous scientific contributions during and after his distinguished academic career. Dr. Orsagh attended the Wharton School and obtained a Ph.D. from the University of Pennsylvania. Dr. Orsagh has served on the faculties of the University of Pennsylvania, Lehigh University, the University of Karlsruhe in Germany, and the University of North Carolina in Chapel Hill. He was a

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