

Improved Anemia Treatments Help Avoid Blood Transfusions

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Anemia, or lack of red blood cells, can lead to serious medical problems. Red cells are necessary to carry oxygen to the tissues, and when they are diminished, patients may face problems ranging from fatigue to life-threatening complications. #7-9, Pg. 4



Over 15 years ago, one of the main methods of treating anemia was with transfusions of red blood cells obtained from donors. Although such transfusions remain an option today in very acute circumstances, particularly blood loss due to trauma or surgery, new methods of treating anemia are allowing us to not have to rely on transfusions as much. Importantly, transfusions unavoidably expose the patients to potential complications, including transmission of viral infections, allergic reactions, and a degree of inconvenience. Furthermore, while transfused red cells only live and function for less than a month, red cells produced by the patient's own bone marrow usually will be alive and function for four months.

Red cells are produced in the bone marrow, and their rate of production is regulated by erythropoietin, a protein that is made in the kidneys. Indeed, the kidneys sense the level of red blood cells; and whenever the level is lower than normal, erythropoietin is produced in increased amounts and sends the signal to the bone marrow to produce more red cells. In many conditions, including cancer, kidney insufficiency and diabetes, the production of erythropoietin may be insufficient, resulting in anemia. By administering the erythropoietin as an injection, we are able to restore the normal level of red cell production and reverse the anemia. The treatment, however, often takes a few weeks to work and restore the red cell levels towards normality.

Patients facing surgery, especially elective orthopedic procedures such as hip surgery, often face the prospect of having to receive blood transfusions. Self-donated blood has been an option. Importantly, any degree of anemia that precedes the surgery needs to be quickly corrected, if possible, in order to minimize the need for transfusions thereafter.

By utilizing the right amount of erythropoietin, iron replacement, and appropriate nutrition, it is possible to restore the normal number of red cells in the majority of patients and to minimize or entirely avoid the use of blood transfusions. This may result in less of a burden to the national blood supply and it can also avoid transfusion-related discomfort and complications for patients with chronic illnesses, and patients who must undergo surgery. Our team has been very active in this line of treatment and research efforts, and many of the studies have clearly demonstrated that the need for transfusions can be significantly reduced.

Our Scientific Publications

Our team is constantly working to provide our patients with the newest and best treatments for cancer and blood disorders. Our doctors also contribute to the development of new therapies through our clinical trials program. We are frequently authors and co-authors of scientific publications, together with colleagues from the United States and throughout the world, addressing various types of cancer and blood conditions. Listed below and on pages 5 and 7 are the references of our scientific publications from the last 4 years; some articles in this magazine refer to them.

- 1■ **Re-validation and shortening of the functional assessment of anorexia/cachexia therapy (FAACT) questionnaire.** *QUALITY OF LIFE RESEARCH*, 9(10): 1137-46, 2000.
- 2■ **Novel erythropoiesis stimulating protein (NESP) for the treatment of anaemia of chronic disease associated with cancer.** *BRITISH JOURNAL OF CANCER*, 84 (1): 24-30, 2001.
- 3■ **A phase II study of the bispecific antibody MDX-H210 (anti-HER2 x CD64) with GM-CSF in HER2+ advanced prostate cancer.** *BRITISH JOURNAL OF CANCER*, 85(2): 152-6, July 20, 2001.
- 4■ **New frontiers in oncology supportive care: anemia management.** *PRIMARY CARE & CANCER*, June 2001.
- 5■ **Thalidomide and irinotecan-associated diarrhea.** *AMERICAN JOURNAL OF CLINICAL ONCOLOGY*, 25(3): 324, 2002.
- 6■ **Darbepoetin alfa given every 1 or 2 weeks alleviates anaemia associated with cancer chemotherapy.** *BRITISH JOURNAL OF CANCER*, 87(3): 268-276, July 2002.
- 7■ **Anemia in cancer patients: significance, epidemiology, and current therapy.** *ONCOLOGY*, 16(9 suppl 10): 17-24, September 2002.
- 8■ **Practitioners' practical model for managing cancer-related anemia.** *ONCOLOGY*, 16(9 suppl 10): 16(9): 55-63, September 2002.
- 9■ **Clinical presentation and management of hemolytic anemias.** *ONCOLOGY*, 16(9 suppl 10): 16(9): 163-170, September 2002.
- 10■ **Psychological outcomes associated with anemia-related fatigue in cancer patients.** *ONCOLOGY*, 16(9 suppl 10): 117-124, September 2002.
- 11■ **Patients with aerodigestive tract cancer and pre-existing weight loss: performance status, quality of life, and laboratory parameters with oxandrolone use.** *INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS*, 54 (2 suppl 1): 311-312, October 1, 2002.
- 12■ **A randomized, placebo-controlled trial of zoledronic acid in patients with hormone-refractory metastatic prostate carcinoma.** *JOURNAL NATIONAL CANCER INSTITUTE*, 94(19): 1458-68, October 2, 2002.
- 13■ **Darbepoetin alfa administered every 2 weeks alleviates anemia in cancer patients receiving chemotherapy.** *ONCOLOGY*, supplement 10, 16: 23-29, October 2002.
- 14■ **A patient with metastatic non-small-cell lung cancer treated with ZD1839.** *CASE STUDIES IN LUNG CANCER, a Physicians' Education Resource publication*, vol.1, no. 9, November 2002.
- 15■ **Randomized controlled trial of zoledronic acid to prevent bone loss in men receiving androgen deprivation therapy for nonmetastatic prostate cancer.** *JOURNAL OF UROLOGY*, 169(6): 2008-12, June 2003.
- 16■ **A dose-and schedule-finding study of darbepoetin alpha for the treatment of chronic anaemia of cancer.** *BRITISH JOURNAL OF CANCER*, 16: 88(12): 1851-8, June 2003.
- 17■ **The relationship between psychological distress and cancer-related fatigue.** *CANCER*, 98(1): 198-203, July 1, 2003.
- 18■ **Zoledronic acid versus placebo in the treatment of skeletal metastases in patients with lung cancer and other solid tumors: a phase III, double-blind, randomized, comparative trial.** *JOURNAL OF CLINICAL ONCOLOGY*, 21(16): 3150-3157, August 2003.
- 19■ **Ongoing placebo-controlled study of oxandrolone in cancer-related weight loss.** *INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS*, 57(2 Suppl 1): S283-4, October 2003.
- 20■ **Overcoming drug resistance in multiple myeloma: the emergence of therapeutic approaches to induce apoptosis.** *JOURNAL OF CLINICAL ONCOLOGY*, 21(22): 4239-4247, November 2003.
- 21■ **A phase II trial of vinorelbine tartarate in patients with disseminated malignant melanoma and one prior systemic therapy.** *CANCER*, 100(18): 1699-704, April 2004.
- 22■ **Long-term efficacy of zoledronic acid for the prevention of skeletal complications in patients with metastatic hormone-refractory prostate cancer.** *JOURNAL OF THE NATIONAL CANCER INSTITUTE*, 96(11): 879-82, June 2, 2004.
- 23■ **Long-term efficacy and safety of zoledronic acid in treatment of skeletal metastases in patients with non-small cell lung cancer and other solid tumors: A randomized, phase III, double-blind, placebo-controlled trial.** *CANCER*, 100(12): 2613-21, June 15, 2004.
- 24■ **Role of dendritic cell phenotype, determinant spreading, and negative costimulatory blockade in dendritic cell-based melanoma immunotherapy.** *JOURNAL OF IMMUNOTHERAPY*, 27(5): 354-67, September-October, 2004.

■ **Proceedings of American Society of Clinical Oncology abstracts: See next page**

■ **Additional Scientific Publications and Presentations: See page 7**