J BUON. 2003 Apr-Jun;8(2):127-32.

Recombinant human erythropoietin for platinum-based chemotherapy-induced anaemia: A single-centre randomised study.

Aravantinos G, Linardou H, Makridaki D, Laiou E, Zafiropoulos A, Janninis J, Sofos G, Gikas D, Samantas E, Markantoni-Kyroudi S.

Source

3rd Department of Medical Oncology, "Agii Anargiri" Cancer Hospital, Athens, Greece.

Abstract

PURPOSE:

Recombinant human erythropoietin (rHuEPO) represents an attractive alternative to red blood cell (RBC) transfusions for the treatment of chemotherapy-induced anaemia. This prospective, controlled study evaluated the safety and efficacy of rHuEPO in reducing RBC transfusion requirements in patients receiving platinum-based chemotherapy.

PATIENTS AND METHODS:

Patients with histologically proven malignancies, haemoglobin (Hb) values <10.5 g/dl, and receiving platinum-based chemotherapy were randomised to either 150 IU/kg of rHuEPO subcutaneously (s.c.) x3/week (group A), or simple follow-up plus RBC transfusions upon indication (group B). All patients received 200mg of elementary iron (Fe) daily.

RESULTS:

A total of 47 patients were randomised to either group A (n=24) or the control group B (n=23). There was a statistically significant increase of Hb ($p < 0.0002$) and haematocrit (Ht) ($p < 0.002$) in group A patients compared to the control group B. The levels of Hb in group A patients increased significantly with each chemotherapy cycle number. There was a statistically significant ($p < 0.04$) difference in the number of transfusions between the two groups, with only 37.5% of group A patients requiring a RBC transfusion at any time during the study, compared to all patients (100%) in group B.

CONCLUSIONS:

Administration of rHuEPO is an effective intervention for the management of chemotherapy-induced anaemia, significantly reducing RBC transfusion requirements in patients receiving platinum-based chemotherapy. Hb and Ht levels proved reliable indicators for response to rHuEPO treatment.