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Prevention of anemia in patients with solid tumors receiving platinum-based chemotherapy by recombinant human Erythropoietin (rHuEpo): a prospective, open label, randomized trial by the Hellenic Cooperative Oncology Group.

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Source

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Abstract

OBJECTIVES:

Platinum compounds are commonly associated with significant anemia. Erythropoietin administration has been found effective in correcting anemia in patients with solid tumors receiving chemotherapy. We conducted a randomized, open label study to assess the efficacy of erythropoietin in preventing transfusions and significant anemia (hemoglobin <10 g/dl) in patients with solid tumors receiving platinum-based chemotherapy.

METHODS:

One hundred forty-four patients with hemoglobin <13 g/dl were included in this study (72 in each arm). Patients in the treatment arm received 10,000 U of recombinant human erythropoietin (rHuEPO) thrice weekly s.c. during platinum-based chemotherapy, while patients in the control arm received no treatment.

RESULTS:

All patients were evaluable for efficacy. Transfusions were reduced by the administration of rHuEPO (15.3 vs. 33.3%, $p = 0.019$), and fewer patients developed significant anemia (16.6 vs. 45.8%, $p < 0.0001$). Subgroup analysis showed that patients with observed to predicted (O/P) serum erythropoietin levels ≤ 0.9 and responders to chemotherapy benefited from erythropoietin administration in contrast to patients with $O/P > 0.9$ or non-responders.

CONCLUSIONS:

rHuEPO at a dose of 10,000 U thrice weekly prevents transfusions and development of significant anemia in patients with solid tumors receiving platinum-based chemotherapy.