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Title: Management of chemotherapy-induced anemia in patients with lung cancer (LC): A comparative study of erythropoietic agents

Dr. Angelica 25624 Tiotiu atiotiu@yahoo.com MD [1], Dr. Christelle 25625 Clément-Duchêne c.clement@chu-nancy.fr MD [1], Dr. Pierre 25626 Vaillant p.vaillant@chu-nancy.fr MD [1], Ms. Pauline 25627 Barbier p.barbier@chu-nancy.fr MD [2], Mr. Decebal 25628 Tiotiu d.tiotiu@chu-nancy.fr MD [3] and Prof. Dr Yves 25634 Martinet y.martinet@chu-nancy.fr MD [1]. [1] Pulmonary Diseases, CHU Brabois, Nancy, France, 54000 ; [2] Pharmacy, CHU Brabois, Nancy, France, 54000 and [3] Public Health, CHU Brabois, Nancy, France, 54000 .

Body: Chemotherapy-induced anemia is a frequent complication of LC.Platinum-based chemotherapies (CT) particularly impair erythropoietin production.One option for the management of this anemia is the administration of recombinant human erythropoietin (RHE) which stimulates red blood cell (RBC) formation. We compared the efficacy and safety of two types of RHE: epoetin alpha (Eprex) and epoetin beta (NeoRecormon) in anemic patients with LC.Thirty eight patients (mean age 62 years) receiving CT for a LC (stage III and IV) with anemia (hemoglobin level≤11g/dl) were included: 19 patients in group 1 treated by Eprex 40000UI/week and 19 patients in group 2 treated by NeoRecormon 30000UI/week for 6 weeks. A hematopoietic response was defined as an increase in hemoglobin concentration ≥2g/dl or hemoglobin (Hb) concentration ≥12g/dl in the absence of a RBC transfusion.The mean Hb levels at baseline were identical: 10 g/dl in group 1 and 9.8 g/dl in group 2. Each group was divided into two subgroups (transfused and non-transfused). 15.8% of patients in the first group required a RBC transfusion versus 36.8% in the second group (p=0.26). The mean changes in hemoglobin level during treatment in non-transfused patients were 0.83 g/dl for group 1 (p=0.003) and 0.31 g/dl for group 2 (p=0.13) without statistical difference among groups (p=0.08). While 12.5% patients in group 1 had a significant hematopoietic response, none was observed in group 2. Two patients in group 2 developed thrombotic events. The tested erythropoietic agents increased the Hb level in anemic patients with LC. In our study epoetin alpha was better in terms of efficacy and safety than epoetin beta.