New pharmacoeconomic option in uremic anemia management

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Sir, - Darbepoetin alpha is a novel erythropoiesis stimulating agent that is effective and safe in maintaining target hemoglobin concentration at reduction of dose frequency and at extended dose intervals [Brunkhorst et al. 2004, Del Vecchio et al. 2004, Locatelli et al. 2003]. In spite of this evidence and of the relevant financial impact of anemia management, so far few studies has been done regarding the pharmacoeconomic impact of Darbepoetin alpha in the management of anemia of uremic patients.

In order to investigate the effect on Hb and on cost of switching patients from recombinant human erythropoietin (rHuEPO) to darbopoetin alpha, we conducted a retrospective longitudinal study in three dialysis centers in Sicily, Italy, selecting uremic patients on dialysis treatment who switched from rHuEPO to darbopoetin.

We compared average hemoglobin (Hb) levels and average weekly cost of rHuEPO at the time of switch with those levels 55 weeks after switching to darbopoetin, using paired sample t-test.

We compared, in the hospital perspective, weekly cost of pharmacological treatment of anemia by multiplying the weekly quantity of drug used times the price per unit paid by the hospital.

Twenty-five patients were randomized for this analysis and followed-up for 55 weeks. Their mean age at enrolment was 66.1 years (SD ± 13.5); 15 (60%) were male. At the time of switch, the mean (± SD) hemoglobin level was 10.49 g/dl (± 1.75) which increased after 55 weeks to a mean of 11.15 g/dl (± 1.46), with a significant difference of 0.66 g/dl in Hb (95% CI 0.22 g/dl to 1.09 g/dl), (paired obser-

vations t-test = 3.1, p = 0.005). At the time of switch, the mean (± SD) weekly cost of rHuEPO was 93.9 (± 59.8) Euro, which decreased to a mean of 64.0 (± 63.5) Euro, with a significant difference in cost of 29.88 Euro per week (95% CI 11.2 Euro to 48.5 Euro) (paired observations t-test = 3.3, p = 0.003). At the end of the study period (after 55th week), in 5/25 (20%) patients Hb decreased, in 2 (8%) patients it remained unchanged and increased in 18 (72%).

In dialysis patients who switched from rHuEPO to darbopoetin alpha, the latter therapy proved to be more effective and less costly. A projection on the annual cost of pharmacological treatment in the rHuEPO period leads to an estimate of approximately 4880 Euro per patient (94 Euro times 52 weeks) and it decreases to a projected 3,330 (64 × 52), thus leading to an approximate 30% annual savings of 1,550 Euro per patient, corresponding to 38,750 Euro for the entire cohort, i.e. approximately the overall annual cost of a dialytic patient. Moreover it is in our opinion that the conversion factor between darbepoetin alpha and rHuEpo is modifiable, with further reduction of dose, possibly leading to a further increase in savings in favor of patients, providers and the society.

References


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