ANEMIA MANAGEMENT IN CHRONIC KIDNEY DISEASE PATIENTS NOT ON DIALYSIS IN CLINICAL PRACTICE FOLLOWING THE RECOMMENDATIONS OF THE ANEMIA WORKING GROUP OF EUROPEAN RENAL BEST PRACTICE (ERBP)

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BACKGROUND

- Following the findings of the TREAT study[1], the Anemia Working Group of ERBP recommended maintaining Hb levels in the range of 11-12 g/dL, without intentionally exceeding 13 g/dL, and to consider doses of ESA therapy to achieve and maintain the Hb target[2].
- Furthermore, the Anemia Working Group of the Spanish Society of Nephrology pointed out that these results could redefine the overall Hb targets[3].
- These objectives should be individualized for each patient taking in consideration patients´comorbidities, velocity of correction, maximum doses of ESA and an adequate blood pressure control as important factors to redefine the targets[3].
- In view of the above, the present study was devised to evaluate if there has been any change in the perception and attitude of the clinician towards the chronic kidney disease patient with anemia treated with an ESA.

(1). Pfeffer MA et al. N Engl J Med 2009; 361:2019-32; (2). Locatelli F et al. Nephrol Dial Transplant 2010; 25:2846-50; (3). De Francisco AL, et al. Nefrología 2010; 30:15-20.

OBJECTIVE

- To evaluate the impact of the last recommendations of the Anemia Working Group of ERBP in anemia management in terms of achieving Hb levels within the target range of 11-12 g/dL.

METHODS

DESIGN

- Post-marketing, observational, cross-sectional study carried out in Nephrology Units of 30 Spanish hospitals.
- In one visit, information about clinical situation of the patient after initiation of anemia treatment or conversion from previous ESAs was collected.
- Final results are presented.

PATIENTS

Main inclusion criteria

- Adults patients with anemia secondary to chronic kidney disease (CKD) not on dyalisis.
- Patients starting anemia treatment (naïve) after six months of the last recommendations of the Anemia Working Group of ERBP (January 2011).
- Patients in treatment who changed from previous ESA treatment since January 2011 (converted patients).

Main exclusion criteria

- Patients in ESA dose adjustment period.
- Kidney transplant patients.

RESULTS

PATIENTS

- A total of 441 patients were evaluated, of whom a 67.6% were naïve to ESA and 32.4% were converted from other ESA. Demographic characteristics are depicted in table 1.

Table 1. Demographic characteristics (n=441)

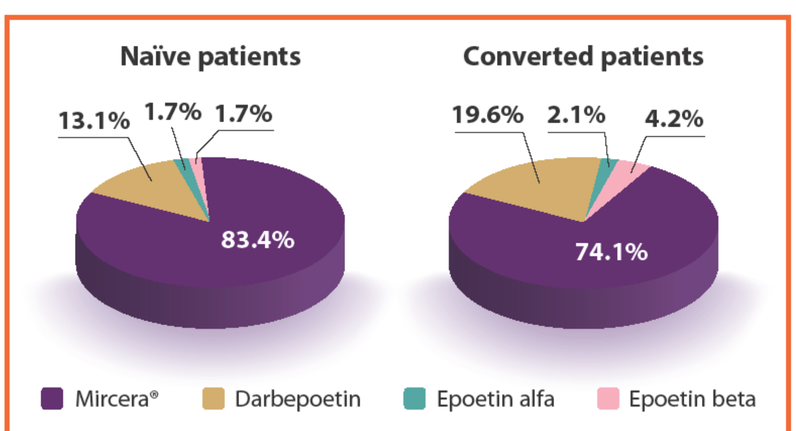
	Naïve patients (n=298)	Converted patients (n=143)
Mean age, years (SD)	72.9 (12.5)	73.5 (13.9)
Male, n (%)	146 (49.0)	66 (46.2)
Caucasian, n (%)	295 (99)	141 (98.6)
CKD stage, n (%)		
3	92 (31.4)	38 (27.3)
4	142 (48.5)	76 (54.7)
5	52 (17.7)	24 (17.3)
CKD etiology, n (%)		
Vascular	93 (31.3)	37 (26.2)
Diabetic	70 (23.6)	43 (30.5)
Glomerular	30 (10.1)	17 (12.1)
Other/Unknown	104 (35)	44 (31.2)
Previous ESAs, n (%)		
Darbepoetin	———	65 (59.1)
Epoetin alfa	———	17 (15.5)
Epoetin beta	———	28 (25.5)
Mean Hb, g/dL (SD)	11.3 (1.3)	11.5 (1.3)
Mean ferritin, ng/mL (SD)	255.2 (226.6)	260.2 (239.8)
Mean TSAT, % (SD)	25.7 (13.2)	25.4 (12.4)

SD: standard deviation; CKD: chronic kidney disease; ESAs: erythropoiesis stimulating agents; Hb: hemoglobin; TSAT: transferrin saturation index.

ANEMIA TREATMENT

- Prior to study initiation, 83.4% of naïve patients had started Mircera® as treatment for anemia correction and 74.1% of those on maintenance were converted to Mircera® (Figure 1).
- The main reason of ESA change was a less frequent administration interval in the 51.1% of the patients.
- At study visit, 82.9% of naïve patients and 72.5% of those converted remained treated with Mircera® and were receiving oral iron (48.9%, 39.8%, respectively).

Figure 1. Anemia treatment at onset of the correction or conversion



- Mean doses of Mircera® used in correction and conversion are shown in table 2. At study visit, mean dose was reduced from initial dose in a 5.4% in naïve patients.

Table 2. Mean doses of ESAs in naïve and converted patients

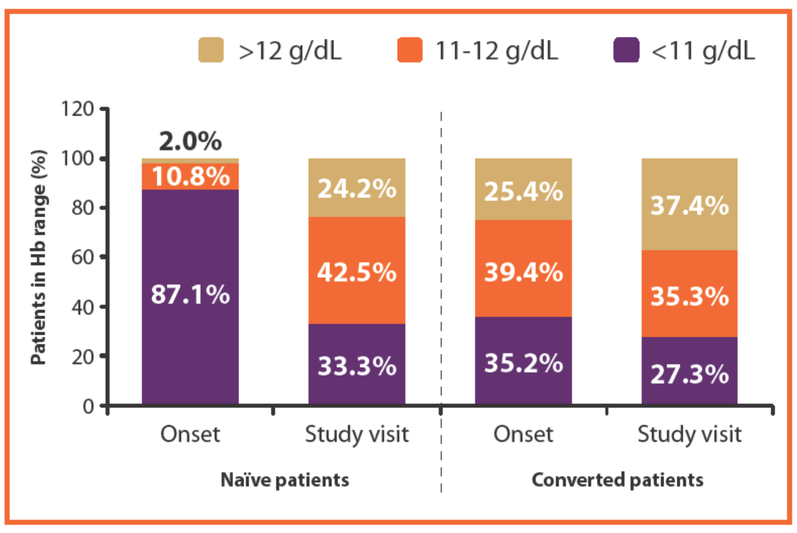
ESAs	Correction/conversion onset	Study visit
Mircera®	**Mean doses (SD)**	**Mean doses (SD)**
Naïve patients	62.9 (26.0) µg/month	59.5 (25.9) µg/month
Converted patients	74.8 (36.7) µg/month	80.6 (42.7) µg/month
Darbepoetin	**Mean doses (SD)**	**Mean doses (SD)**
Naïve patients	24.5 (15.8) µg/week	23.1 (16.8) µg/week
Converted patients	23.3 (10.6) µg/week	23.8 (12.0) µg/week

- During the correction period, a 2.1% of naïve patients required blood transfusions.

TARGET OF HEMOGLOBIN

- At study visit, 42.5% of naïve patients had attained the recommended Hb range of 11-12 g/dL with mean Hb levels of 11.3±1.3 g/dL vs 10.1±0.9 g/dL at the beginning of ESA therapy (Figure 2).
- 35.3% of converted patients maintained Hb levels within the recommended target range, with stable Hb levels after switching from other ESA (mean 11.4±1.2 g/dL vs 11.5±1.3 g/dL) (Figure 2).
- Of the total of patients, 7.9% of naïve and 8.2% of those converted raised Hb concentrations to levels >13 g/dL at study visit.

Figure 2. Percentage of naïve and converted patients who achieved the Hb target range 11-12 g/dL

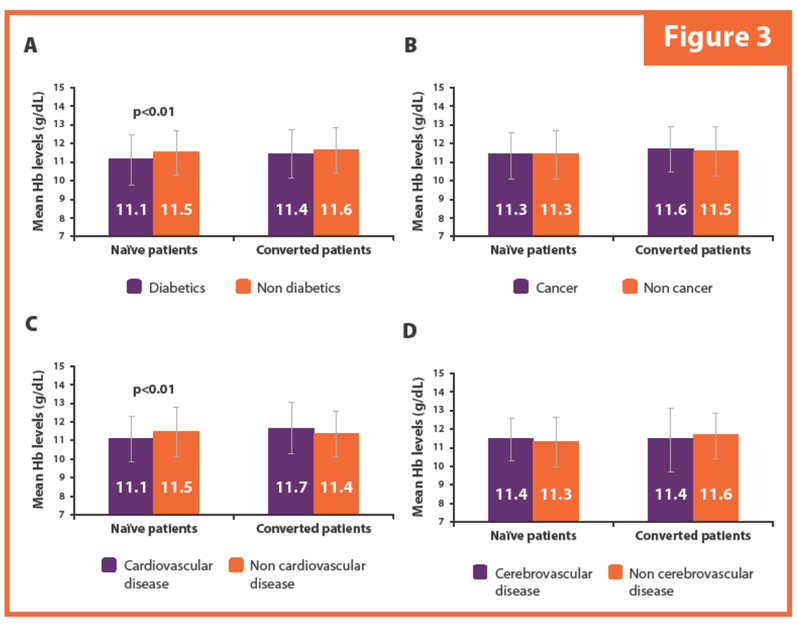


- Iron parameters in both patient groups were within the target ranges recommended.

HEMOGLOBIN LEVELS ACCORDING TO PATIENTS´ COMORBIDITIES

- Figure 3 shows mean Hb levels raised in selected populations such as patients with diabetes, cardiovascular or cerebrovascular disease, and patients with cancer.

Figure 3



CONCLUSIONS

- These results indicate an appropriate anemia management in CKD patients not on dialysis, achieving the recommended Hb target range of 11-12 g/dl, without intentionally exceeding 13 g/dL, as stated the last recommendations of ERBP group.
- In fact, 58.5% of naïve and 64.8% of converted patients attained Hb levels between 11 and 13 g/dL, which show that the management of anemia in clinical practice conditions in Nephrology Units in Spain is mainly aimed to prevent Hb levels <11 g/dL.
- The observation that anemia management in patients with significant co-morbidity is similar to that of the general CKD population reflects the inevitable differences in clinical practice when deciding which Hb level to aim for. These findings may suggest certain reluctance of nephrologists to change anemia management towards patient individualization of Hb targets, or perhaps, we are facing a change in doctors´ attitude not yet shown at the time this study was conducted.
- A 79.5% of the patients were treated with Mircera®, which was mainly chosen because of its monthly administration, achieving effectively the targeted Hb levels.

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