FRESENIUS MEDICAL CARE

Changes in the haemoglobin values of haemodialysed patients

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Introduction

Anaemia is a common concern in the clinical care of haemodialysis patients. The best way to reduce anaemia is to minimise the patients' blood loss by means of nursing interventions.

Objectives

To assess whether the patients' haemoglobin levels are influenced by increasing the reinfusion volume in chronic haemodialysis patients and whether haemoglobin levels change in dependence of the transferrin level.

Methods

We analysed the laboratory results of 40 patients at two different time intervals (Figure 1.). At first, we assessed the period from May until June 2014 when blood reinfusion was performed using 240ml reinfusion volume, which could be increased up to 320-460ml according to the dialyser. From February to September 2015, we then set the target to reach a transferrin saturation of 40% by increasing the dose of iron injection.

Results

The increased reinfusion volume resulted in an average increase of Hgb levels of 1.65g/L, while the dose of beta-epoetin was reduced by 7µg on average. The mean haemoglobin levels increased from 109.3 to 110.95g/L (p=0.138). The average beta-epoetin dose decreased from 127.75 to 120.75µg (p=0.034) and subsequently to 100µg in December 2015, respectively. By increasing the iron dose, the average beta-epoetin dose decreased from 109.67 to 90,34µg (p=0.028) from February to September 2015. Hgb levels decreased from 110.1 to 106.1g/L (p=0.14306) in the same period (Figure 2.).

Conclusion

By increasing the reinfusion volume, the initial erythropoietin dose could be reduced until the end of the second year. We observed a similar reduction in beta-epoetin dose by elevating the patients' iron intake.

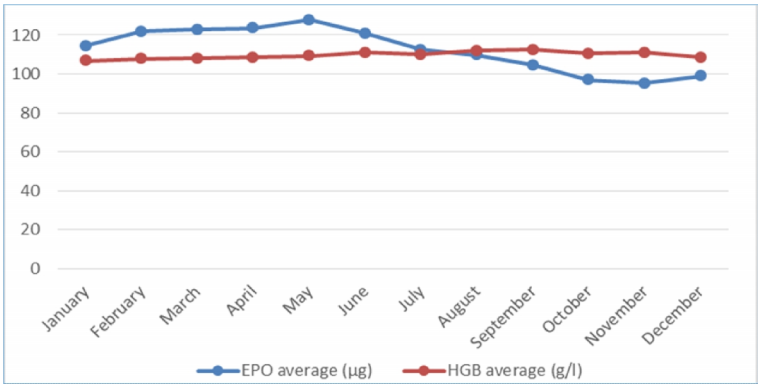


Figure 1. Average EPO and Hgb values in 2014.

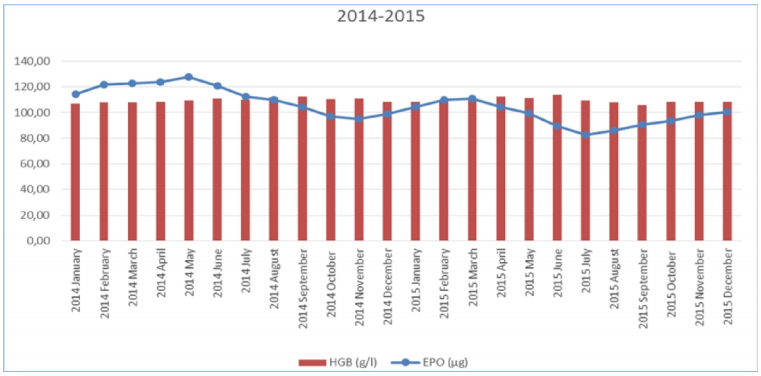
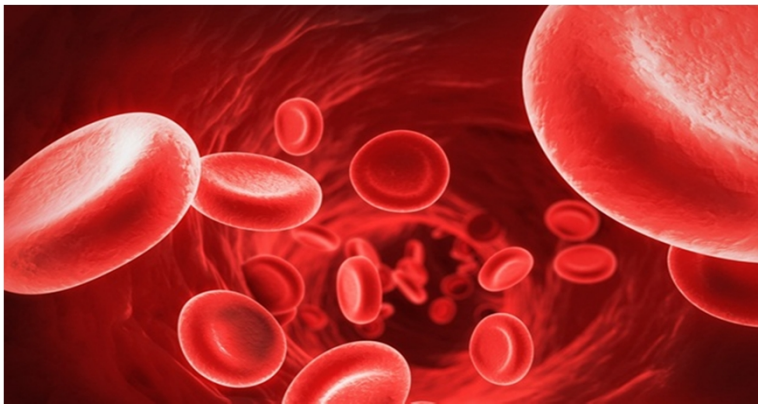


Figure 2. Average Hgb values and EPO quantities in 2014-2015.



Red Blood Cells
Source: http://www.interactive-biology.com/6713/an-overview-of-hemoglobin-and-myoglobin

References

1. Kiss Z. Kulcsár I., Kiss I.: Hemoglobin variability in cronic renal failure patients. http://www.akademiai.com/content/k044560717j26356/