

Darbepoetin alfa versus Epoetin beta: The reality in our dialysis clinic

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Introduction

Administration of erythropoiesis stimulating agents (epoetin alfa, epoetin beta, and darbepoetin alfa) has become the standard anaemia treatment in dialysis patients. This project aims to compare effectiveness of Darbepoetin Alfa versus Epoetin Beta from the user perspective to perform anaemia treatment of renal replacement patients in NephroCare Maia.

Objectives

To compare darbepoetin alfa *versus* epoetin beta administration in terms of effectiveness of anaemia treatment and management of iron status in patients on Online Haemodiafiltration (On-Line HDF).

Methods

The target population of this study comprised 107 patients [54 (50.5%) male] who underwent On-Line HDF between May 2014 to June 2015. The patients were assigned to darbepoetin alfa treatment from May to December 2014 and epoetin beta between January to June 2015, respectively. Parameters of anaemia management and dialysis adequacy were analysed. The results were obtained on the basis of the average haematocrit, haemoglobin and mean weekly stimulating erythropoiesis dose administered to the patient.

Results

Darbepoetin alfa doses administrated during the follow-up period ranged between 3x(3.1-6.3µg)/week. In this period, haematocrit and haemoglobin levels ranged from 33.2-35.3% to 11.1-11.5g/dl, respectively. Epoetin beta doses ranged among 3x(555.6 to 2617.7 IU/Kg)/week. In this period, haematocrit ranged from 33.7% to 35.3% and the concentration of haemoglobin from 10.9-11.5 g/dL, respectively. Patients under darbepoetin alfa treatment exhibited replacement volume of 23.3-24.6L and Kt/V from 1.74-1.91. Similar results were found when patients were treated with epoetin beta, with a replacement volume ranging from 23.3-24.2L and Kt/V from 1.66-1.91. No differences were found in the levels of ferritin, iron status, and type of vascular access used.

Conclusion

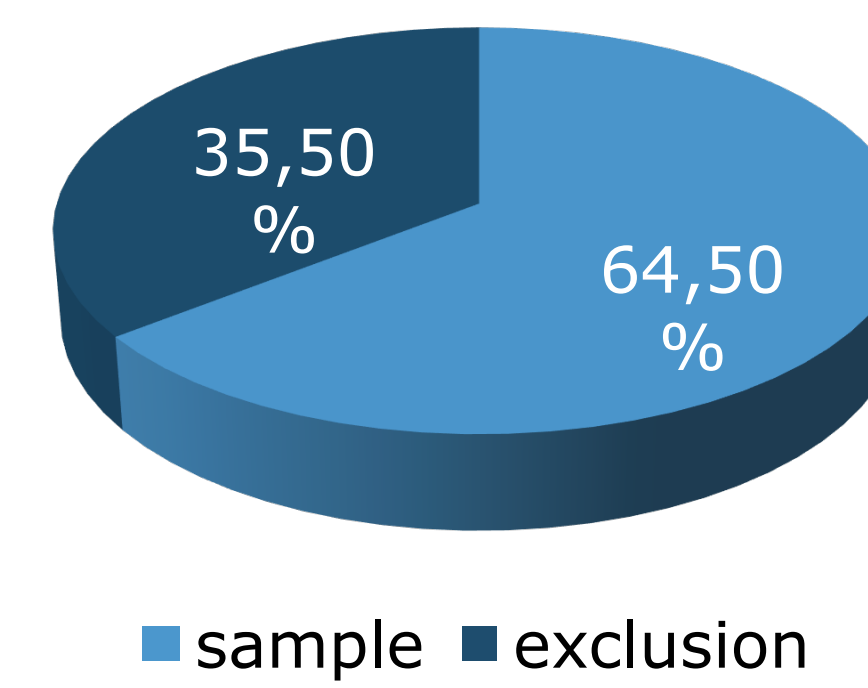
The results showed that the degree of anaemia, iron status, and dialysis adequacy in On-Line HDF was similar with the administration of both erythropoiesis stimulating agents. Obviously, there is no direct relationship between the variation of EPO dose and levels of ferritin and iron in relation to the administered doses. Similarly, there are also no significant differences with regard to vascular access used. Thus, both drugs are effective to treat anaemia.

Our results showed that both drugs regimens are equivalent in maintaining the targets for haemoglobin concentration and haematocrit; however, it was found that with low doses of darbepoetin alfa, the same values are more stable and the average does not decrease below 11.1g/dL. It would be interesting to perform the same study, comparing the administration of Epoetin Beta administered subcutaneously.

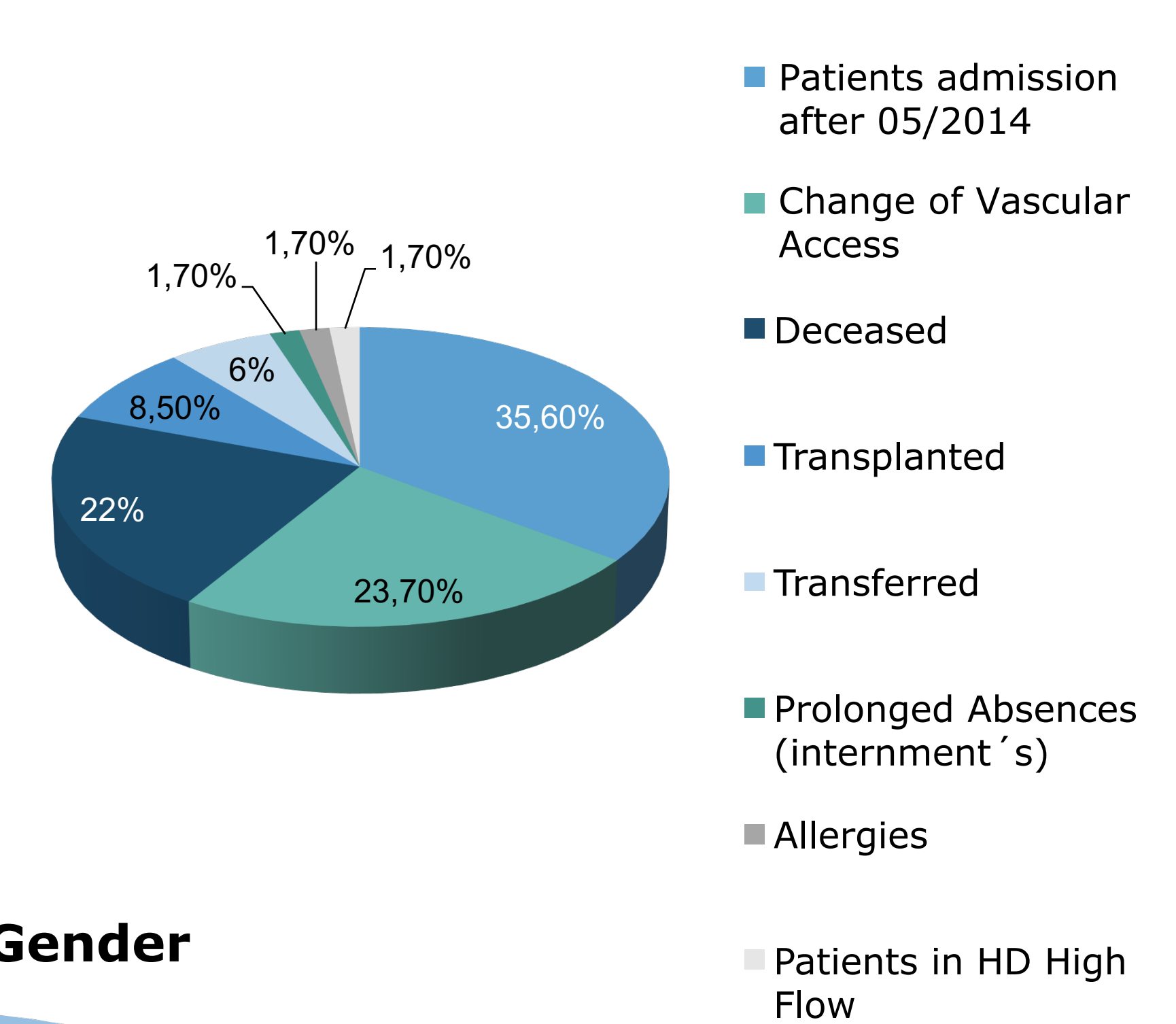
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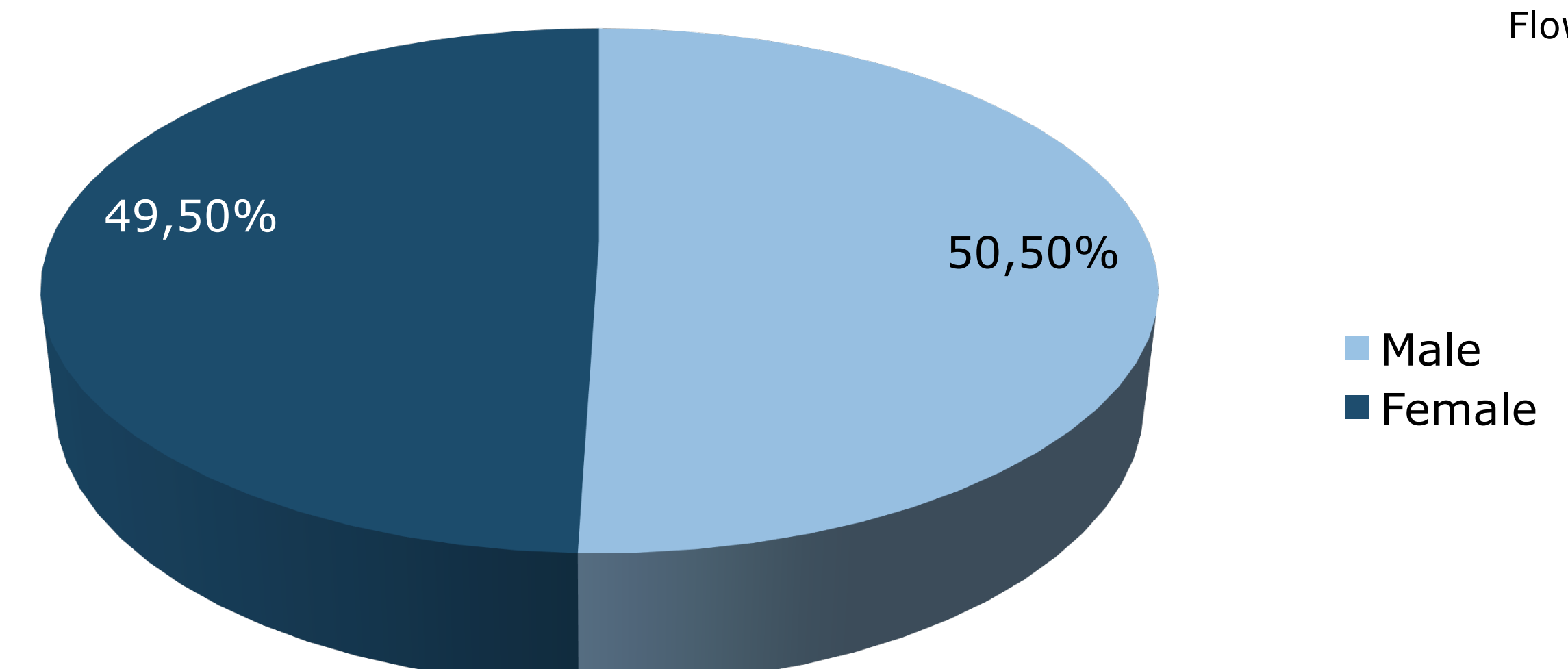
Graphic 1: Population between May 2014 to June 2015



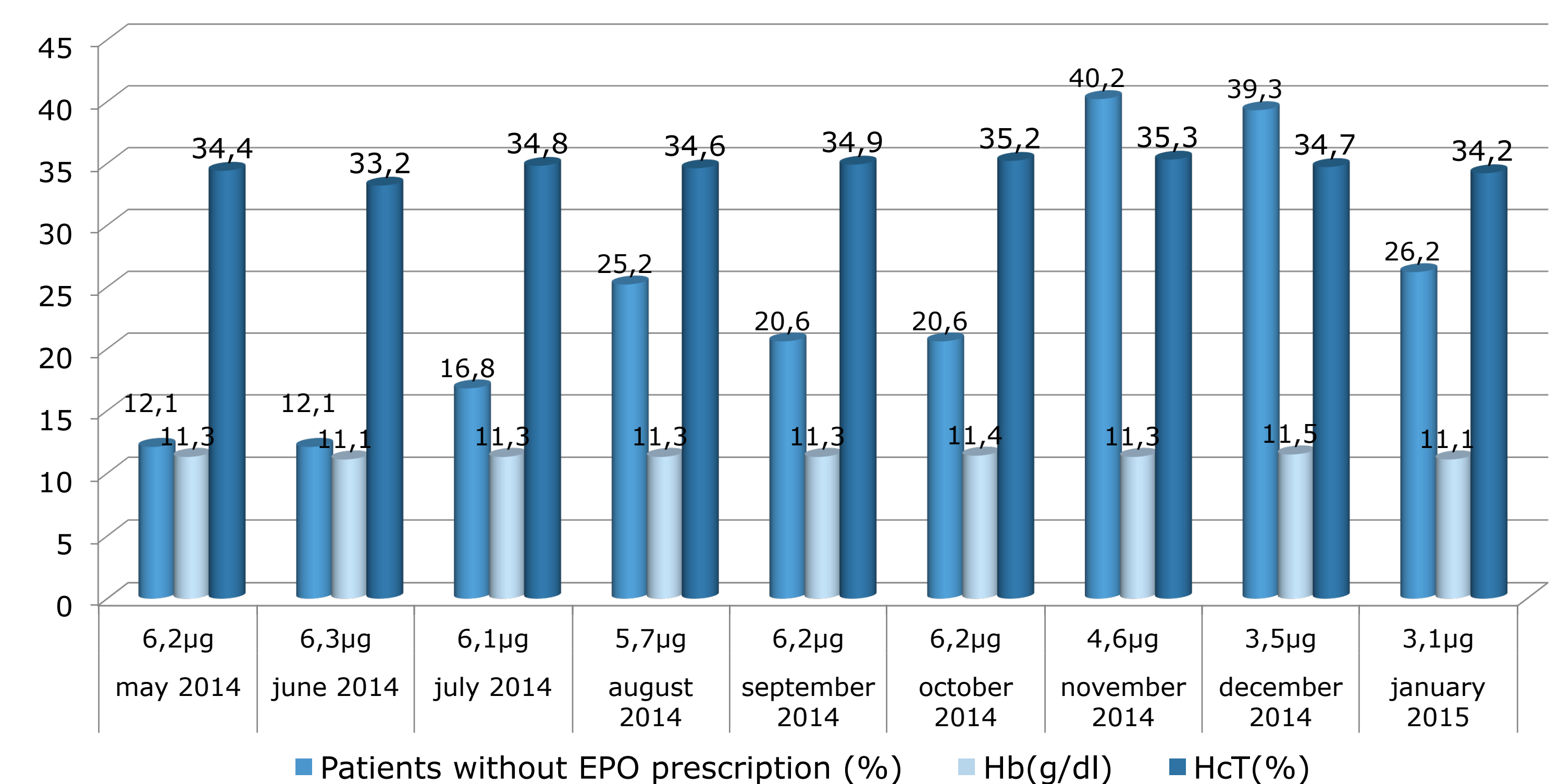
Graphic 2: Criteria for exclusion in study



Graphic 3: Gender



Graphic 4: Relation between Darbepoietin Alfa dose, Haemoglobin and Haematocrit



Graphic 5: Relation between Epoetin Beta dose, Haemoglobin and Haematocrit

