

# Pharmacy Based Dosing of Darbepoetin: a randomized controlled trial in hemodialysis patients

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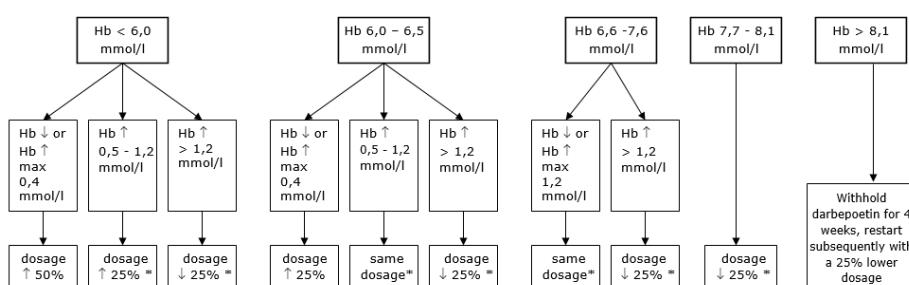
## Background

Erythropoietin analogues and intravenous iron supplementation are used to treat anemia in hemodialysis patients. Treatment guidelines suggest a target range for hemoglobin levels in hemodialysis patients of 6.8 to 7.4 mmol/l. Before start of the study, 23% of all hemodialysis patients in our hospital had hemoglobin levels within target range. In this study, we investigated if pharmacy-based dosing of darbepoetin was more effective in reaching target hemoglobin (Hb) levels than physician-based dosing.

## Methods

- Single-center randomized, controlled trial
  - n=2x100
- Inclusion criteria
  - All hemodialysis patients treated with darbepoetin
- Follow-up of 13 months per patient
- Intervention group
  - Development of a treatment algorithm based on guidelines, summary of product characteristics, and expert opinion
  - Monthly dosing advice regarding darbepoetin and intravenous iron sucrose by a pharmacist
- Control group
  - Dosing of darbepoetin and intravenous iron sucrose as usual (by nephrologist only)
- Analysis
  - Exclusion of 15 patients as prespecified in the protocol
  - SPSS, non-parametric tests (Mann-Whitney)

### Treatment algorithm for darbepoetin dosage



\* unless there is an increase of > 0,4 mmol/l Hb despite prior dose reduction: in that case withhold darbepoetin for 4 weeks, restart subsequently with a 25% lower dosage

## Results

Figure 1. Proportion of hemoglobin levels within target range (median 23.1% vs 38.5%, p=0.001)

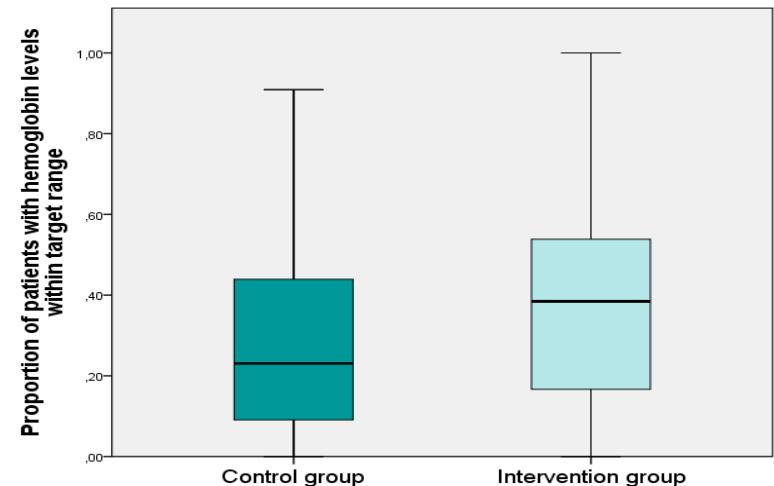


Table 1. Secondary endpoints (median)

Parameter	Intervention group	Control group	P value
Hb > 8.1 mmol/l	0.0%	7.7%	0.034
TSAT ≥ 20% and ferritin 200-500 mcg/l	21.1%	8.3%	0.003

Darbepoetin dosage per patient in the intervention group was 13 mcg/week lower than in the control group.

## Conclusions

In hemodialysis patients, pharmacy-based dosing of darbepoetin and iron sucrose increases the percentage of patients within target range for hemoglobin levels as well as with adequate iron storage.

## Discussion

The increase in percentage of hemoglobin levels within target range was not as high as expected, probably due to the high frequency of infections.

## Contact

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