Iron deficiency in heart failure with reduced ejection fraction: improving treatment on the cardiology ward

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Introduction

Iron deficiency is common in patients with heart failure (HF) and can be present independently of anaemia. Most HF patients have functional iron deficiency rather than absolute iron deficiency. However, both are associated with reduced functional capacity as well as increased mortality.[1]

The European Society of Cardiology guidelines recommend considering intravenous (IV) iron infusion in patients with HF with reduced ejection fraction (HFrEF).[2] Studies have shown that IV iron supplementation improves symptoms and outcomes in patients with HFrEF[3], while oral iron therapy is not effective.[4]

The aim of this quality improvement project was to evaluate if patients with HFrEF identified as iron deficient were considered/offered IV iron supplementation. Educational interventions were introduced after each cycle to improve clinical practice (standards target 100%).

Materials and methods

All inpatients on the cardiology ward at our institution were studied over a period of 2–3 weeks across 2 Plan-Do-Study-Act (PDSA) cycles (between August 2022 and January 2023). All patients with a diagnosis of HFrEF and recent blood tests demonstrating iron deficiency were included in this study. Data were collected on iron levels and if IV supplementation was considered/offered. Patients on end-of-life care were excluded.

Interventions following each cycle included poster summaries of guidelines, presentation of findings to the cardiology team and WhatsApp group reminders.

Results and discussion

The first cycle had 13 HFrEF patients tested for iron levels, of which seven were iron deficient; of those, four (57%) were treated with IV iron (Table 1). Following educational interventions, the second cycle included 11 HFrEF patients tested for iron deficiency of which four were iron deficient; all patients with iron deficiency were supplemented with IV iron.

Table 1. HFrEF patients on the cardiology ward analysed according to iron levels and if they were considered/offered IV supplementation

	Cycle 1	Cycle 2
HFrEF patients tested for iron deficiency	13	11
HFrEF patients without iron deficiency	6	7
HFrEF patients with iron deficiency	7	4
HFrEF patients treated for iron deficiency (% of those with iron deficiency)	4 (57%)	4 (100%)

Conclusions

Our practice in HFrEF inpatients and their treatment of iron deficiency did not follow guidelines initially but showed improvement, such that the standards target was reached, following educational interventions. Future studies will aim to investigate the long-term effects of our interventions on a larger sample size. ■

References

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