Iron deficiency surveillance and ferric carboxymaltose administration rates for hospitalised patients with HFrEF remains suboptimal

Iron deficiency and ferric carboxymaltose administration in heart failure with reduced ejection fraction

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Introduction

The AFFIRM trial demonstrated inpatients with iron deficiency and a left ventricular ejection fraction of <50% (HFrEF) that the administration of intravenous ferric carboxymaltose (IFC) prior to discharge, after an acute heart failure hospitalisation, was safe and reduced the risk of future heart failure hospitalisations[1].

Aims

To determine the proportion of hospitalised HFrEF patients; screened for iron deficiency, eligible for IFC, administered IFC and with accurate documentation of IFC administration in the discharge summary.

Method

A retrospective audit of HFrEF patients discharged from a tertiary metropolitan hospital. The inclusion and exclusion criteria for the study population is outlined in Figure 1. Patient demographics, iron studies, and haemoglobin were collected. The following criteria were used to define iron deficiency and eligibility for IFC based on local hospital protocol; ferritin <100ng/mL or 100-299ng/mL with a transferrin saturation <20%, and haemoglobin <135g/L for females or <150g/L for males. IFC dose was based on haemoglobin and body weight. The dose and administration of IFC was extracted from the electronic medication record. Medical discharge summaries were reviewed for accuracy of documentation of IFC doses administered and for a planned second dose if indicated.

Results

There were 116 cases reviewed, all patients had a haemoglobin measured, and 74 (64%) had iron studies completed (Figure 2). Of those, 47 (64%) met the eligibility criteria for IFC (Figure 3) and 35 (74%) received IFC (Figure 4). The appropriate IFC dose could be determined for 34 (97%) doses, and 33 (97%) patients received the correct dose. The dose and administration of IFC was accurately documented in the medical discharge summary for 32 (91%) patients who received IFC (Figure 5). Of the 11 patients eligible for a second IFC dose only 3 (27%) had a documented plan for a follow up dose in the medical discharge summary.

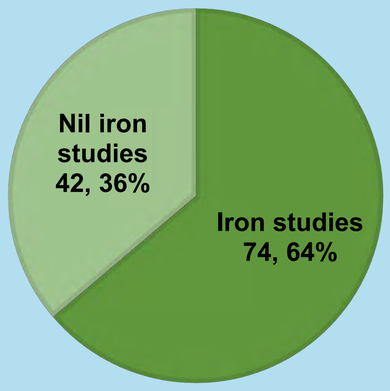

Figure 2: Proportion of HFrEF patients with iron studies conducted.

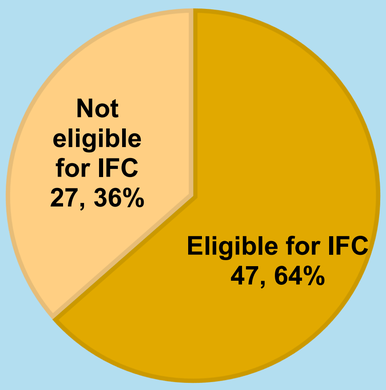

Figure 3: Proportion of HFrEF patients with iron studies conducted who were eligible for IFC.

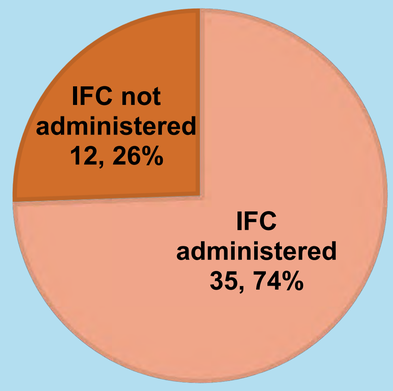

Figure 4: Proportion of HFrEF who were eligible for IFC and administered IFC.

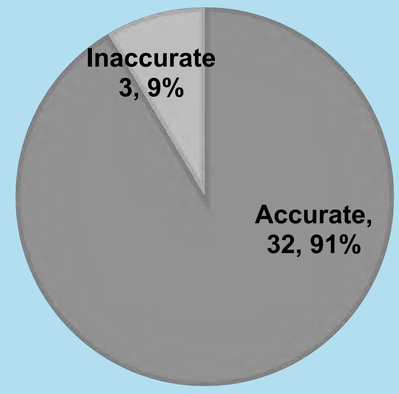

Figure 5: Proportion of IFC doses administered that were accurately documented in medical discharge summary

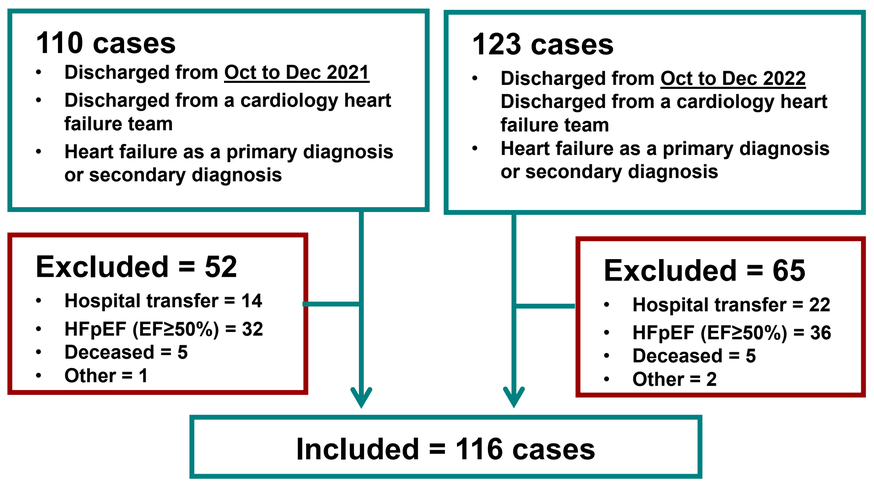

Figure 1 : Inclusion and exclusion criteria which determined the study population

Discussion

The rate of administration of IFC for HFrEF patients during hospitalisation for acute heart failure was lower than expected, given iron deficiency is expected in up to 80% of these patients[2]. Poor documentation of the second IFC dose when indicated may suggest some patients are being underdosed. Lack of screening for iron deficiency is a major barrier to IFC prescribing. Our results were comparable to another Australian single centre study which found that 74% of hospitalised HFrEF patients (EF <40%) were screened for iron deficiency, 63% of those were eligible for IFC and IFC was administered to 65% of those eligible[3].

References

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For more information

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