Intravenous iron infusions on AMU are they being used appropriately?

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Introduction:
Intravenous iron is an expensive alternative to oral iron with potential side effects; however in specific circumstances it is required. The most common indications are:

- intolerance of oral iron
- impaired absorption of oral iron
- iron replacement in Chronic Kidney Disease (CKD).

Given the expense and potentially side effects the aim of this audit was to establish if intravenous iron was being use appropriately on our Acute Medical Assessment Unit (AMU).

Methods:
From June 2017 to May 2018 electronic discharge summaries, haematology/biochemistry results, pharmacy data and patient letters were analysed for all patients prescribed intravenous iron in our AMU. We aimed to identify the indication for the infusion for each case. In addition numeral data on, age, gender, mortality, haematinics, iron studies and identification of those who also received a blood transfusion was collected. Formal examination of handwritten notes for each admission was not undertaken.

Results:
57 admissions (51 patients) were identified where an intravenous iron infusion was used. 46 patients had one infusion, 4 patients had two infusions and 1 patient had three infusions.

Of the 51 patients who received one or more iron infusions 33 were women and 18 men. The age range was 21 to 97. The average age was 69 and the median age 73 (Fig 1). 10 patients had passed away when the data was analysed.

The average haemoglobin (Hb) was 74.6g/L. On 26 admissions the patient also received a blood transfusion. The average Hb for intravenous iron and blood was 60.0g/L. The average Hb for intravenous iron only was 86.6g/L.

42 of 57 discharge summaries stated intravenous iron was given of which 40 mentioned one or more symptom/finding/factor relating to anaemia/iron deficiency anaemia, but only 10 mention a clear indication for intravenous iron rather than a trial of oral iron (x5 CKD, x3 malabsorption, x2 intolerant oral iron).

Discussion:
During the 12-month period our AMU spent £9336.12 on intravenous iron (Monofer: iron isomaltose). The average cost per episode (N=57) for Monofer was £163.79, which compares to a 3-month course of oral iron of less than £10. In only 10 episodes was a clear indication documented.

We developed a new consultant sign-off protocol with clear criteria for intravenous iron prescribing (Fig 2) aiming to ensure it is given with clear indications to reduce cost and potential side effects.