

Conference abstract

Outcomes of Intravenous Iron Therapy in a Community Hospital Setting

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INTRODUCTION

Iron deficiency anemia (IDA) is a common condition among hospitalized patients and is traditionally managed with oral iron supplementation, intravenous (IV) iron, or blood transfusion depending on severity and clinical context. IV iron provides more rapid iron repletion and is increasingly used in patients with intolerance to oral therapy or in those requiring expedited treatment. However, its clinical benefit during short hospitalizations remains uncertain due to its delayed hematologic response. While prior studies suggest that early IV iron administration, particularly in the Emergency Department, may reduce transfusion rates, hospitalizations, length of stay, and costs, its utility when initiated later during inpatient care is less clear. This study evaluated hemoglobin response, transfusion requirements, safety, and length of stay in hospitalized patients receiving IV iron at our community hospital, with the goal of assessing whether inpatient administration provides meaningful short-term benefit.

METHODS

We performed a retrospective chart review of hospitalized academic internal medicine patients with IV iron orders between November 1, 2025 and January 30, 2026 at our community hospital. A total of 56 patients had IV iron ordered; 49 patients who actually received IV iron were included in the final cohort. Data were collected through the electronic medical record (Cerner) and included number of IV iron doses (125 mg sodium ferric gluconate per dose), hemoglobin levels before and after therapy, packed red blood cell (pRBC) transfusion requirements, adverse reactions including anaphylaxis, and length of stay (LOS). Patient demographics included ages ranging from 38 to 93 years and a male-to-female ratio of 22:34. Descriptive statistics were used to evaluate hemoglobin response, transfusion rates, safety outcomes, and LOS.

RESULTS

Among the 49 patients included, most received 2-4 doses of IV iron (range: 18). Mean hemoglobin increased from ap-

proximately 8.6 g/dL pre-treatment to 9.2 g/dL post-treatment, representing an average increase of 0.6g/dL during hospitalization. While many patients demonstrated stabilization or mild improvement, larger increases were primarily observed in those who also received transfusions. Approximately 30-35% of patients required pRBC transfusion, typically 1-2 units, with lower baseline hemoglobin associated with transfusion need. No cases of anaphylaxis or severe infusion reactions were observed. Length of stay ranged from 2 to 20 days, with a mean of approximately 6-7 days, and no clear association between IV iron dosing and LOS.

CONCLUSIONS

In this retrospective single-center study, IV iron therapy in hospitalized patients was found to be safe and well tolerated, with no observed anaphylaxis or significant adverse reactions. However, the short-term hemoglobin response was modest, with an average increase of only 0.6 g/dL during hospitalization. As previously identified, IV iron administration, reticulocytosis typically begins within 3-5 days, but clinically meaningful increases in hemoglobin generally occur after 2-4 weeks, with peak effects occurring later. As a result, the benefit of IV iron is often not fully realized during the relatively short duration of inpatient stays. Although some patients avoided transfusion, a substantial proportion still required pRBCs, suggesting that IV iron alone may not be sufficient for acute hemoglobin correction in hospitalized patients with significant anemia. These findings raise important considerations regarding resource utilization and timing of therapy. IV iron may provide greater clinical value when initiated in the outpatient setting or at hospital discharge, where its delayed hematologic effects can be realized without prolonging hospitalization. In the inpatient setting, IV iron may be best reserved for selected patients who are unlikely to require urgent hemoglobin correction but would benefit from early iron repletion. Overall, while IV iron is safe and physiologically beneficial, its limited short-term impact suggests that routine inpatient use may not always be necessary, with outpatient initiation potentially representing a more efficient and clinically meaningful approach.

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