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A Study Examining The Safety And Efficacy Of Ferric Carboxymaltose In A Large Pediatric Cohort

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A STUDY EXAMINING THE SAFETY AND EFFICACY OF FERRIC CARBOXYMALTOSE IN A LARGE PEDIATRIC COHORT

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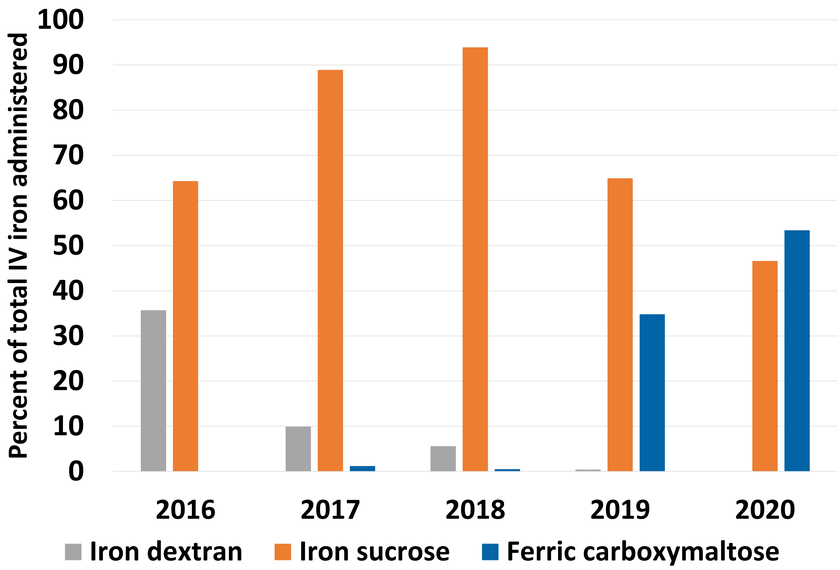
Background

- Iron deficiency anemia (IDA) is common in the pediatric population with varying high-risk factors
- Intravenous (IV) iron supplementation has become more desirable in patients with moderate to severe anemia and in patients who are either unresponsive to or have adverse side-effects secondary to oral iron
- Iron sucrose and Iron dextran have been traditionally used in pediatrics while ferric carboxymaltose (FCM) has only been FDA approved in adults
- One of the major advantages of FCM is the ease of dosing and efficacy
- Though FCM was approved for adults in 2013 and there have been no safety concerns, it is not yet been FDA approved for pediatric patients despite a few pediatric studies demonstrating its safety and efficacy

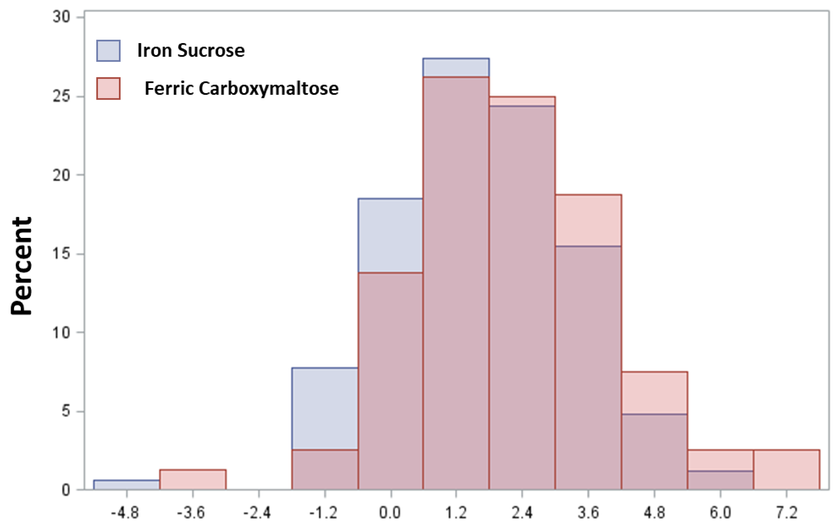
Methods

- This is a retrospective chart review study of patients who met inclusion criteria in a large pediatric hospital who received Iron dextran, Iron sucrose, and/or FCM between 4/1/2016 through 6/30/2020
- Anonymized data from eligible patients was entered into a secure electronic database
- We reviewed charts individually and collected data including patient demographics, details about each IV iron administration, and pre- and post-iron infusion lab values

Utilization of different IV iron formulations over time



Change in Hemoglobin Level from Baseline at 60 Days



Results

- The overall usage of IV iron has increased over the last few years and the utilization of different formulations has also changed during this time
- As the years have progressed, the usage of iron dextran has decreased while FCM has increased
- Change in hemoglobin level 0-60 days after initial iron infusion was significantly higher in the FCM cohort (2.05g/dL) compared to iron sucrose (1.5g/dL), p value 0.024
- Approximately 88% of patients who received FCM required 1 to 2 doses to achieve goal hemoglobin and/or ferritin, however 49% of patients who received iron sucrose required more than 2 doses to achieve goal hemoglobin and/or ferritin with multiple patients requiring up to 8 doses
- Of the 164 FCM infusions analyzed, there were 7 documented adverse events and of the 610 iron sucrose infusions analyzed, there were 10 documented adverse events

Conclusion

- IV iron is being utilized more to treat IDA in certain patient populations
- At our institution, the usage of FCM has considerably increased since 2019
- Our data displays the efficacy and tolerability of FCM
- Further prospective studies analyzing efficacy of FCM with consistent lab follow up and standardized adverse event documentation

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