Assessment of iron sucrose use at a community-based hospital

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Citation
Jalice, Ada S.; Frias, Mercedes; and Garcia, Yarelys, "Assessment of iron sucrose use at a community-based hospital" (2016). All Publications. 1283.
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BACKGROUND

- According to the World Health Organization, two billion people (30% of the world’s population) suffer from anemia.1 Iron deficiency is the primary causative factor in half of these cases.
- The standard of care for iron deficiency anemia is oral iron supplementation as it is safe, effective, well tolerated, and inexpensive.2
- Parenteral iron therapy is more costly and may cause severe side effects, such as hypotension and anaphylaxis.3 It is indicated as first line in patients who are unable to tolerate or absorb oral preparations. In those with unresolved bleeding, in those undergoing dialysis, and in pregnant women.
- Within our hospital system, an algorithm has been proposed to limit the first line use of intravenous (IV) iron sucrose (Venofer®).

OBJECTIVES

1. Determine if patients treated with Venofer® as first line therapy for iron replacement met Baptist Health South Florida (BHSF)’s proposed IV iron algorithm criteria
2. Assess if patients had hemoglobin, transferrin saturation (TSAT), and ferritin levels drawn at baseline
3. Examine potential cost savings associated with proposed algorithm

METHODOLOGY

- This retrospective study was approved by the BHSF Institutional Review Board.
- An electronic report of all inpatients who received Venofer® in June 2016 was generated by our pharmacy systems specialist.
- Patients <18 years old and those who first received oral iron supplementation were excluded.
- Of the resultant records, fifty charts were chosen at random to determine if they met the following criteria outlined in BHSF’s proposed algorithm:
  - Baseline hemoglobin <12 g/dL, TSAT <30%, ferritin <1200 ng/mL
  - Patient types:
    - Dialysis
    - Pregnant women
    - Gastric surgery
    - Patients with gastrointestinal (GI) disorders
    - Patients with malabsorption syndromes
    - Patients with severe/ongoing blood loss
    - Patients who cannot receive oral intake (NPO)
- For patients who did not meet the above criteria, the total cost of Venofer® doses was calculated.

RESULTS

Demographics

<table>
<thead>
<tr>
<th>Gender</th>
<th>N=50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>21 (42%)</td>
</tr>
<tr>
<td>Female</td>
<td>29 (58%)</td>
</tr>
</tbody>
</table>

Baseline Laboratory Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>N=50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin</td>
<td>50 (100%)</td>
</tr>
<tr>
<td>TSAT</td>
<td>18 (36%)</td>
</tr>
<tr>
<td>Ferritin</td>
<td>23 (46%)</td>
</tr>
</tbody>
</table>

Analysis of Inadequate Venofer® Therapy

<table>
<thead>
<tr>
<th>Total</th>
<th>Doses administered</th>
<th>Milligrams administered</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16 (32%)</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10,700</td>
</tr>
</tbody>
</table>

Potential Cost Savings

Total cost: $3,168

CONCLUSIONS

- The criteria outlined in our hospital system’s proposed algorithm can greatly streamline the use of parenteral iron therapy.
- Since these implications translate into safe and cost effective treatment, a system wide initiative will be implemented to promote the usage of oral iron supplementation.

REFERENCES


DISCLOSURES

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

- Ada S. Jalice: Nothing to disclose
- Mercedes Frias: Nothing to disclose
- Yarelys Garcia: Nothing to disclose