Introduction

Iron deficiency is the most common nutritional deficiency in the world and affects approximately 2 billion people. Iron deficiency is associated with chronic conditions such as cancer, inflammatory bowel disease, chronic kidney disease, and chronic heart failure and the most common cause of anemia worldwide.

Background

A critical shortage of blood products exists, requiring novel strategies to reduce the need for perioperative blood transfusions. Our department evaluated the potential impact of providing parenteral iron supplementation to all oncology patients undergoing a thoracic surgical procedure, who were found to be anemic on preoperative work-up.

Methods

We examined 100 consecutive patients with a cancer diagnosis undergoing a planned thoracic surgical procedure. All patients were screened for preoperative anemia via a complete blood count with differential and iron studies within 30 days of the scheduled procedure. Data were recorded for the number of patients who received a perioperative blood transfusion and compared to their pre-existing anemia status.

Results

Out of 100 patients reviewed, 38 were found to have anemia on preoperative laboratory values. Ten out of 38 patients were iron deficient. Out of 100 patients reviewed, eight received a blood transfusion during the perioperative period. Of those receiving a transfusion, only three were anemic at baseline with two being iron deficient, resulting in a mere 2% incidence of transfusion with pre-existing iron deficiency anemia.

Discussion

Preoperative anemia was not found to play a key role in the need for perioperative transfusions. For the patients who were anemic at baseline, iron deficiency was just one of many potential causes. Patient histories included other known causes of anemia such as neoadjuvant treatment with chemotherapy, radiation therapy, or immunotherapy within the previous three months. Further research should be considered to explore these and additional etiologies that may be more amenable to mitigation strategies.

Conclusion

Anemia in oncology patients is multifactorial. Based on our data, the use of preoperative parenteral iron supplementation would only benefit a small percentage of patients undergoing thoracic surgery and therefore is not a viable strategy for reducing perioperative blood transfusions.

References

Pumping Iron in the Preoperative Period: Is It Beneficial in Reducing Blood Transfusions?
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