



Relationship of decrease in hemoglobin on initial monitoring to the incidence of major gastrointestinal bleeding

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Introduction

- Hemoglobin levels are frequently used to screen for anemia and bleeding in patients on anticoagulation therapy
- There are no guidelines on how to manage decreasing hemoglobin found during screening and its utility has not been confirmed
- The purpose of this study was to evaluate the degree of anemia discovered on screening, the risk for gastrointestinal hemorrhage, and evaluate how it was managed

Methods

- Retrospective analysis of veterans at Dayton VAMC who were started on apixaban between 2013 and 2020
- Demographics, HASBLED score at apixaban initiation, baseline hemoglobin level, subsequent hemoglobin level, incidence of major gastrointestinal bleeding, and gastroenterology referrals collected

Though there was a significant relationship between degree of anemia on screening and incidence of major gastrointestinal hemorrhage only 28% of these patients were referred to gastroenterology for evaluation

Results

- Two groups were formed
Decrease in Hgb <2 gm/dL (N=1343, 96%) and ≥2 gm/dL (N=54, 4%)
- The two groups did not differ on age, sex, race, or HASBLED score
- 2.2% incidence of major gastrointestinal bleed in the <2 gm/dL decreased hemoglobin group
- 20.4% incidence of major gastrointestinal bleed in the ≥2 gm/dL decreased hemoglobin group
- 27.8% of patients with ≥2 gm/dL decrease were referred to gastroenterology for evaluation

Conclusion

- A ≥2 gm/dL decrease in Hgb on screening was associated with a significantly increased risk of major gastrointestinal bleeding
- Only 27.8% of patient with a ≥2 gm/dL decrease were referred to gastroenterology in outpatient setting prior to hospitalization
- The low percentage of referrals given the risk of gastrointestinal bleeding in this group indicates need for improvement in care
- Further prospective studies should be performed to assess if immediate referral to gastroenterology after a notable decrease in hemoglobin results in a lower rate of hospitalization for gastrointestinal hemorrhage and decreased cost

References

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Table 1: Comparisons between patients with Hgb decrease of <2 gm/dL vs. ≥2 gm/dL

	Hgb decrease <2gm/dL (N=1343)	Hgb decrease ≥2 gm/dL (N=54)	P
Age – Years (Mean ± St. deviation)	72.5±10.1	72.8±9.7	0.91
Sex			
Male	1316 (98.0)	52 (96.3)	0.71
Female	27 (2.0)	2 (3.7)	
Race			
Caucasian	1189 (90.7)	425 (93.4)	0.85
African American	122 (9.3)	30 (6.6)	
HASBLED Score (Mean ± St. deviation)	2.24±1.08	2.44±1.09	0.19
Incidence of Major GI bleed	30 (2.2 %)	11 (20.4%)	<0.001