The Influence Of Comorbidity On Red Cell Transfusions For Patients With Upper Gastro-intestinal Bleeding

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Introduction

While the majority of patients with upper gastro-intestinal bleeding (UGIB) are ≥ 65 years old and likely to have comorbid conditions, little is known about the frequency of and indications for transfusion in these patients. Since transfusions are commonly given to patients with UGIB, understanding the influence of comorbidities on transfusion practice may identify opportunities for improvements in blood management. This study examined the impact of comorbid conditions on transfusion to patients with UGIB.

Methods

We analyzed 3+ years of patient - specific transfusion data from 29 US hospitals in the IMPACT® Online database and identified 13,407 patients with UGIB who required diagnostic endoscopy. The Charlson Comorbidity Index (CCI) was used to stratify patients based on medical comorbidity. Final hemoglobin for patients receiving a transfusion, defined as the last recorded hemoglobin prior to discharge, was included in the analysis as an indicator of transfusion practice.
We looked at age, percent transfused, units transfused, and final hemoglobin of transfused patients in separate cohorts of CCI to determine if there was a correlation between the CCI and transfusion practice.

Charlson Score Points

Low score (≤3)	Moderate (4-5)	High (6-7)	Very High (≥8)
1 point	Acute MI, previous MI, CHF, connective tissues disease, COPD, dementia, diabetes, CVD. mild liver disease, ulcer, PVD		
2 points	Chronic renal failure, diabetes with sequelae, cancer, hemiplegia		
3 points	Liver disease		
4 points	AIDS, metastatic cancer		

Results

CCI	n	Age	% Tx	Units	Final Hgb Tx
0	1857	57.5	47.8%	3.31	10.2
1	3164	61.9	63.0%	3.47	10.1
2	2443	68.4	68.6%	3.64	10.2
3	1816	71.3	71.8%	3.83	10.3
4	1799	63.7	71.4%	4.36	10.0
5	1025	61.9	70.6%	4.21	10.0
6	620	64.5	67.9%	4.43	10.0
7	361	66.8	74.5%	4.29	10.0
≥8	312	64.6	72.8%	4.93	10.4

Transfusion and Charlson Score
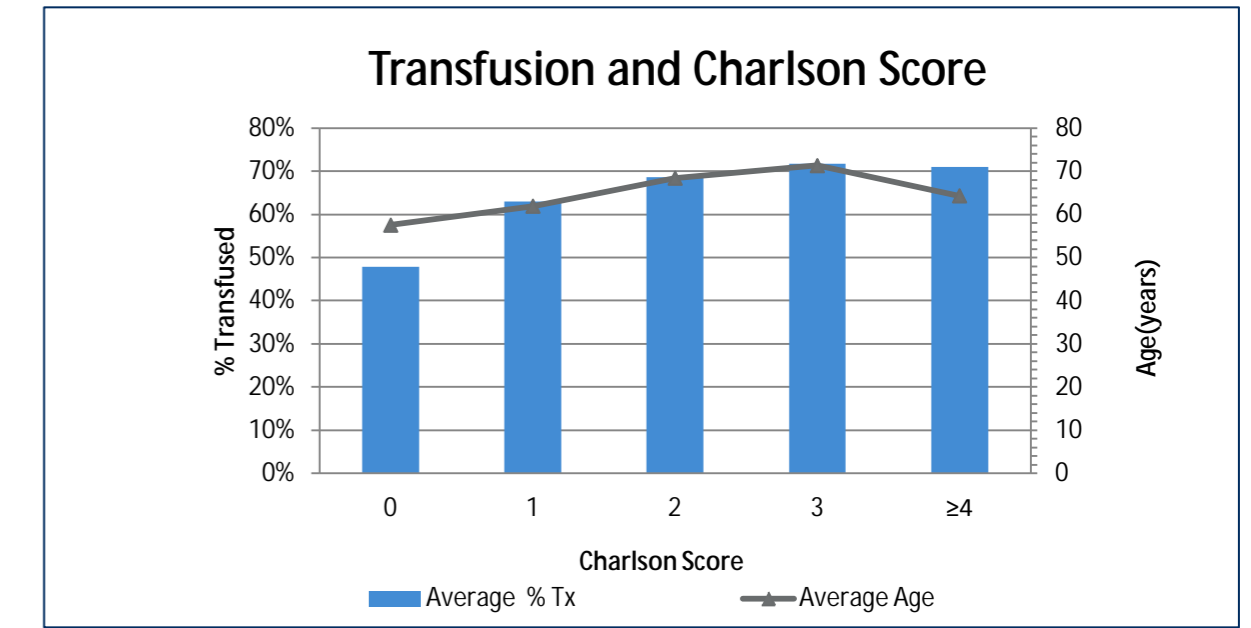
Conclusions

§ **The presense of comorbidities increases the likelihood of transfusion.**

§ **Final Hgb values are between 10.0 and 10.4 g/d/L for all groups regardless of CCI or age. This suggests that many patients may be over transfused.**

§ **Additional studies are needed to determine the effects of transfusion on short and longterm outcomes in this population.**

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