The Correlation Between Early Endoscopy and In-Hospital Outcomes in Patients With Upper GI Malignancies Admitted for Upper GI Bleeding

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Background

- Upper gastrointestinal bleeding (UGIB) in the setting of UGI malignancies is challenging due to friable vasculature.
- Data on the role of esophagogastroduodenoscopy (EGD) remains limited on improving overall outcomes.
- New therapeutics are now available to achieve hemostasis during EGD such as Hemospray which prompts promising outcomes for early interventions.

Aim of The Study

- The goal of this report was to investigate whether early EGD in cancer related UGIB improves overall in-hospital outcome using a large representative database

Methods

- Using the National Inpatient Sample, we examined patient characteristics and predictors for in-hospital outcomes for patients with UGI malignancies (esophagus to stomach) admitted with UGIB stratified based on undergoing early EGD (≤ 24 hours) vs not during 2016.
- In-hospital outcomes of interest were all-cause mortality, need for blood transfusion, invasive mechanical ventilation, length of stay and total hospital charge.
- Multivariate analysis was used to predict in-hospital outcomes stratified based on undergoing early EGD after adjusting for baseline characteristics, Charlson comorbidity index, day of admission during the week and medical comorbidities.

Study Population

- Patients with UGI malignancy admitted for UGIB in 2016: 1,935.
- Patients with UGI malignancy and UGIB who underwent early EGD within less than 24 hours of admission: 695.
- Patients with UGI malignancy and UGIB who did not undergo early EGD after 24 hours of admission: 1,240.

Baseline Characteristics

	UGIB in GI cancer undergoing early EGD (N=695)	UGIB in GI cancer not undergoing early EGD (N=1,240)	P value
Mean age	68.2 ± 1.2	67.2 ± 0.8	0.744
Female	160 (23%)	345 (27.8%)	0.292
Race/ethnicity			0.419
• White	479 (68.9%)	781 (62.9%)	
• Black	75 (10.8%)	170 (13.7%)	
• Hispanic	50 (7.2%)	160 (12.9%)	
• Asian or pacific islander	40 (5.7%)	65 (5.2%)	
• Native American	< 10	< 10	
• Other	20 (2.8%)	25 (2%)	
Primary payer			--
• Medicare	440 (63.3%)	725 (58.4%)	
• Medicaid	75 (10.8%)	175 (14.1%)	
• Private	145 (20.9%)	245 (19.8%)	
• Self-pay	<10	60 (4.8%)	
• Other	25 (3.6%)	35 (2.9%)	
Hospital location/teaching status:			0.0153
• Rural	20 (2.9%)	120 (9.7%)	
• Urban nonteaching	165 (23.7%)	365 (29.4%)	
• Urban teaching	510 (73.4%)	755 (60.9%)	
Hospital bed-size			0.805
• Small	110 (15.8%)	230 (18.5%)	
• Medium	180 (25.9%)	320 (25.8%)	
• Large	405 (58.3%)	690 (55.6%)	
Dyslipidemia	245 (35.2%)	345 (27.8%)	0.136
Diabetes mellitus	60 (8.6%)	55 (4.4%)	0.095
Hypertension	350 (50.4%)	620 (50%)	0.942
Coronary artery disease	195 (28.1%)	275 (22.2%)	0.202
Chronic kidney disease	104 (14.9%)	95 (7.6%)	0.020
Atrial fibrillation	105 (15.1%)	165 (13.3%)	0.623
Coagulopathic disorder	<10	<10	0.925
Alcohol misuse	<10	<10	--
Protein calorie malnutrition	90 (12.9%)	190 (15.3%)	0.511
Esophageal varices	<10	<10	0.455
Cirrhosis	15 (2.2%)	15 (1.2%)	0.526
Weekend admission	135 (19.4%)	305 (24.6%)	0.239

Outcomes

	Total number (UGIB in GI cancer receiving early EGD [N=695] vs no early EGD [N=1,240])	OR (95% CI)	P value
All-cause mortality	20 (2.8%) vs 80 (6.4%)	0.48 (0.12 to 1.91)	0.304
Blood transfusion	305 (43.8%) vs 425 (34.2%)	1.77 (1.09 to 2.85)	0.020
Invasive mechanical ventilation	15 (2.1%) vs 30 (2.4%)	0.58 (0.05 to 6.23)	0.654
Length of stay (days)	4.4 ±0.33 vs 4.5 ±0.32	Coef. -0.41 (-1.16 to 0.34)	0.288
Total hospital charge (USD)	48,324 ±4,606 vs 41,874 ±3.953	Coef. -2.38 (-1.07 to 5.97)	0.576

- Multivariate analysis comparing UGIB in patients with GI cancer based on receiving early EGD (24 hours) adjusted for age, gender, race/ethnicity, charlson comorbidity index, hypertension, atrial fibrillation, coagulopathic disorder, diabetes mellitus, cirrhosis, varices, coronary artery disease, chronic kidney disease, dyslipidemia, alcohol misuse, protein calorie malnutrition, weekend admission, hospital size, hospital location and primary insurance

Conclusion

- Early EGD did not show improved all-cause mortality rate for patients with UGI cancer who have UGIB, but showed increased requirement for blood transfusion which possibly indicates more severe bleeding and more vigilant anticipation of complications.
- This study preceded the approval of new therapeutics such as Hemospray, which was approved in the US in 2018, and raises the question whether outcomes would improve after further utilization of newer therapeutic innovations.

Disclosures

- Suhail Haddadin indicated no relevant financial relationships.
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