

Outcomes of Diverticular Bleeding in those with Diseases requiring Anticoagulation

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Background

- 3-15% of individuals with diverticular disease will have acute bleeding. One well documented risk factor is the use of anticoagulation medication. Most patients who have a history of vascular diseases such as stroke, pulmonary embolism (PE), deep vein thrombosis (DVT), atrial fibrillation/flutter, and myocardial infarction (MI) are on prolonged courses of anticoagulation. However, the outcome of this population presenting with diverticular bleeding remains poorly understood.
- Purpose:** Investigate outcomes of those with common comorbidities requiring anticoagulation in terms of mortality, length of stay (LOS), and the rate of therapeutic colonoscopy when presenting with diverticular bleeding.

Methods

- The Nationwide Inpatient Sample (NIS) 2001-2013 database was queried for patients with a primary diagnosis of diverticulitis and diverticulosis with hemorrhage using International Classification of Diseases, Ninth Revision (ICD-9) codes. A logistic regression analysis with data adjusted for demographics was performed on the comorbidities, with $a < 0.005$.

Comorbidities studied:

- Stroke
- DVT/PE
- Atrial Fibrillation/Flutter
- Myocardial Infarction

Results

Variable	P-Value	Odds Ratio (95% CI)
Death		
No History	Reference	
Stroke	< 0.001	2.903 (2.649 - 3.180)
DVT/PE	< 0.001	4.461 (4.071 - 4.889)
Atrial Fibrillation/Flutter	<0.001	1.789 (1.721 - 1.860)
Myocardial Infarction	0.000	8.962 (8.492 - 9.457)
Length of stay > 3 days		
No history	Reference	
Stroke	< 0.001	1.709 (1.643 - 1.777)
DVT/PE	0.000	5.174 (4.873 - 5.493)
Atrial Fibrillation/Flutter	0.000	1.652 (1.634 - 1.671)
Myocardial Infarction	0.000	4.861 (4.655 - 5.076)
Therapeutic Colonoscopy		
No history	Reference	
Stroke	< 0.0001	0.919 (0.886 - 0.954)
DVT/PE	0.002	0.935 (0.896 - 0.976)
Atrial Fibrillation/Flutter	0.336	1.005 (0.995 - 1.016)
Myocardial Infarction	< 0.001	0.799 (0.774 - 0.825)

Tables 1. Outcomes in those with risk factors who present with Diverticular Bleed

- MI had the highest odds ratio of death, while stroke had the lowest
- DVT/PE had the highest OR for length of stay > 3 days, while those with atrial fibrillation/flutter had the lowest
- Stroke, DVT/PE, atrial fibrillation/flutter, and MI all had a lower OR of undergoing colonoscopy

Conclusion

- Having a vascular-related comorbidity increased the average LOS and mortality when presenting with diverticular bleeding
- These comorbidities decrease the likelihood of undergoing colonoscopy during a diverticular bleeding event. This may be due to the increased volume and prolonged time of hemorrhage secondary to anticoagulation use, leading to the need for interventional radiology embolization.
- Future studies should investigate outcomes of this population comparing different therapeutic modalities for diverticular bleeding.

