Hospital Outcomes in Patients with Gastrointestinal Bleeding on Primary Prevention Aspirin: A Nationwide Emergency Department Sample Analysis

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Background

- The overall burden of Emergency Department (ED) visits due to upper GI bleeding (UGIB) in patients on primary prevention ASA (ppASA) presenting with UGIB are unknown.
- We sought to describe trends in proportion and etiology of ppASA users presenting with UGIB and investigate the age-dependent impact of ppASA on hospital outcomes compared to ASA nonusers.

Methods

- Patients ≥40yo presenting with UGIB were identified using ICD-10 codes.
- Patients were on ppASA with ICD-10 code for long-term ASA monotherapy but no codes for atherosclerotic cardiovascular disease and no codes for long-term antithrombotic therapy, long-term anticoagulation, or long-term non-steroidal anti-inflammatory drugs.
- Multivariate weighted regressions adjusted for sex, year, geographic region, income quartile, primary insurance payer, Charlson Comorbidity Index, urban/rural or teaching hospital status.
- Stratified analysis by age and weighted national estimates of ED presentations from 2016-2019 were performed.

Results

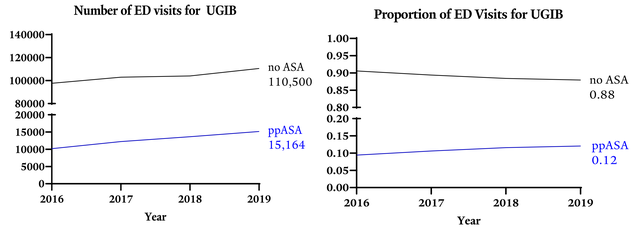
- ED visits nationwide for UGIB for patients on ppASA increased 49% from 2016-2019.
- Bleeding from angioectasias has increased significantly ($p<0.001$) as a cause of UGIB
- Age-stratified analysis reveals ppASA users were more likely to have negative UGIB outcomes compared to ASA nonusers.

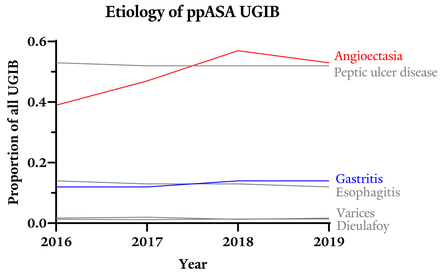
Conclusions and Clinical Implications

- ED visits for UGIB in patients on ppASA are increasing and are driven by elderly patients that are at highest risk of harm.
- Deprescription initiatives for ppASA based on recent guidelines may prevent thousands of GIB admissions nationwide yearly.

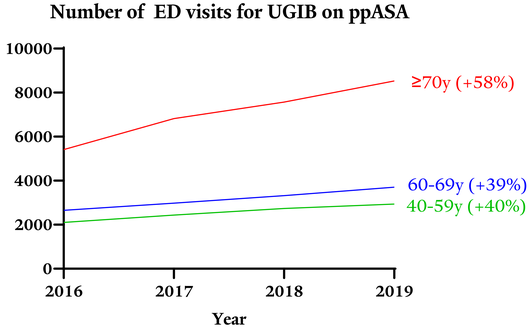
The number of ED visits for UGIB in patients on primary prevention aspirin is increasing nationwide, particularly for individuals ≥70 years of age

Primary prevention aspirin use is associated with increased risk of hospital admission, blood transfusion, and endoscopic hemostasis in patients with UGIB





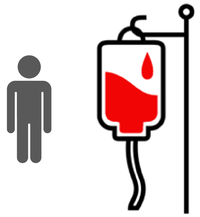
Trends in UGIB frequency and etiology in patients without cardiovascular disease presenting to the ED, 2016-2019. Numbers reflect 2019 data.



Age-stratified trends in ED visit numbers for UGIB in patients on primary prevention aspirin. Percentages reflect increase from 2016 to 2019.

33%

decreased odds of **ED discharge** for a patient with UGIB on **primary prevention aspirin** receiving an upper endoscopy compared to a patient with UGIB not on primary prevention aspirin



17%

increased odds of **blood transfusion** for a patient with UGIB on **primary prevention aspirin** receiving an upper endoscopy compared to a patient with UGIB not on primary prevention aspirin

	N =	ED Discharge OR (95% CI)	Blood Transfusion OR (95% CI)	Hemostatic Intervention OR (95% CI)	In-Hospital Mortality OR (95% CI)
All	465,687	0.67 (0.62, 0.73)	1.17 (1.12, 1.22)	1.14 (1.09, 1.20)	0.58 (0.49, 0.70)
40-49y	84,673	0.73 (0.57, 0.93)	1.06 (0.85, 1.32)	1.10 (0.87, 1.39)	0.56 (0.18, 1.77)
50-59y	117,327	0.67 (0.57, 0.79)	1.17 (1.04, 1.31)	1.11 (0.98, 1.26)	0.30 (0.15, 0.62)
60-69y	107,155	0.72 (0.62, 0.83)	1.21 (1.11, 1.33)	1.11 (1.01, 1.23)	0.39 (0.24, 0.62)
≥70y	156,532	0.63 (0.56, 0.71)	1.14 (1.08, 1.22)	1.16 (1.09, 1.24)	0.68 (0.55, 0.84)

Age-stratified regression analyses for UGIB outcomes among patients on ppASA, 2016-2019. All comparisons made with reference to ASA non-users. OR = odds ratio; CI = confidence interval