Impact of a pharmacist-led initiative on aspirin deprescribing among hospitalized patients receiving concurrent direct oral anticoagulants with or without P2Y12 inhibitors

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MEMORIAL HOSPITAL WEST

BACKGROUND

- Low dose aspirin (ASA) is widely used for the prevention and treatment of atherosclerotic cardiovascular disease
- In patients without recent coronary revascularization, AFIRE and AQUATIC trials show that adding ASA to oral anticoagulation increases bleeding risk without reducing ischemic events
- In patients with atrial fibrillation and recent acute coronary syndrome or percutaneous coronary intervention (PCI) on a P2Y12 inhibitor, the AUGUSTUS trial shows that oral anticoagulation without ASA reduces bleeding and hospitalizations without increasing ischemic events
- These findings suggest opportunities to deprescribe antiplatelet therapy in patients without a clear indication for dual or triple therapy
- Pharmacist-led deprescribing in the ambulatory setting is well-described in the literature, but inpatient data are lacking

INITIATIVE

- At Memorial Hospital West (486-beds), a clinical pharmacy initiative was implemented in August 2023 within daily anticoagulation monitoring, encouraging pharmacists to identify patients on multiple antithrombotic agents, assess antiplatelet indication, and recommend discontinuation of ASA when potentially not indicated
- A workflow change notification and educational slide deck presentation with accompanying audio were disseminated via email to all pharmacists with request for acknowledgement of lecture viewing
- After two weeks, the following verbiage was added to all pharmacist documentation templates for therapeutic anticoagulation monitoring

➢ *Double or triple antithrombotic therapy*:
- ❑ *Yes – appropriate indication*
- ❑ *Yes – inappropriate indication, contacting clinician*
- ❑ *No*
- ❑ ***

➢ *Triple antithrombotic therapy (i.e. DOAC + aspirin + clopidogrel) is considered to have a high risk of bleeding and is appropriate for a select population only. Please verify appropriateness.*

- The purpose of this study was to assess the impact of this initiative in promoting ASA deprescribing in hospitalized patients on direct acting oral anticoagulants (DOACs)

METHODS

IRB-exempt, retrospective, single center, quasi-experimental pre-post study. The time periods evaluated were pre-intervention (June 1-July 31, 2023) and post-intervention (June 1- July 31, 2024)

Inclusion Criteria
- Adults ≥ 18 years
- Admitted for ≥24 hours
- Concurrent ASA and DOAC (therapeutic dose) orders

Exclusion Criteria
- One time order for ASA
- Pregnant
- Incarceration

Primary Outcome
- The rate of in-hospital ASA deprescribing

Secondary Outcomes
- Operational outcomes
- Clinical outcomes (in-hospital and six months post-discharge)

Statistical Analysis
- Chi-square/Fisher's exact tests and t-tests/Wilcoxon rank-sum tests, as appropriate
- Level of significance of 0.05
- All statistical analysis was completed using Social Science Statistics

RESULTS

Table 1. Baseline Characteristics

	Pre-intervention (n=97)	Post-intervention (n= 67)	P-value
Age, years, median (IQR)	72 (64-82)	74 (59-83)	0.866
Gender: Female, n (%)	50 (52)	27 (40)	0.15
Race, n (%)			
Other	8 (8)	7 (11)	0.64
Black	38 (39)	25 (37)	
White	51 (53)	35 (52)	
Admission Diagnosis, n (%)			
Thromboembolism related	7 (7)	8 (12)	0.30
Other	90 (93)	59 (88)	
Past Medical History, n (%)			
Atrial fibrillation	55 (57)	44 (66)	0.25
Coronary artery disease	58 (60)	46 (69)	0.25
Aortic disease	6 (6)	11 (16)	0.044
PCI < 1 year	4 (4)	0 (0)	
PCI ≥ 1 year	21 (22)	47 (70)	0.0027
No PCI history	72 (74)	20 (30)	
Ischemic stroke / transient ischemic attack (TIA) <1 year	15 (15)	7 (10)	
Ischemic stroke / TIA ≥ 1 year	37 (38)	19 (28)	0.15
No ischemic stroke / TIA history	45 (46)	41 (61)	
Home Antithrombotic Use, n (%)			
Aspirin	68 (70)	41 (61)	0.23
Clopidogrel	13 (13)	4 (6)	0.19
Apixaban	49 (51)	34 (51)	0.62
Dabigatran	2 (2)	3 (4)	
Rivaroxaban	12 (12)	11 (16)	
No oral anticoagulant	34 (35)	19 (28)	

Figure 1: Primary Outcome

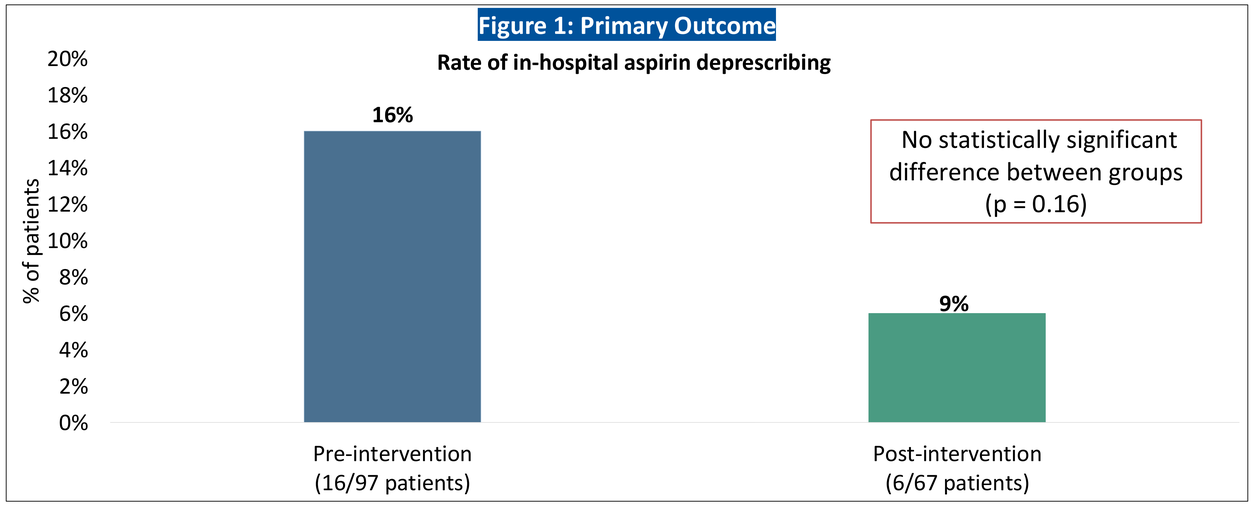

Table 2: Secondary Outcomes

	Pre-intervention	Post-intervention	P-value
Proportion of patients with ≥ 1 deprescribing intervention attempt by a pharmacist	6/97 patients (6%)	5/67 patients (7%)	1
Provider acceptance rate	4/6 interventions (67%)	4/5 interventions (80%)	0.45
In-hospital major or CRNMB	12/97 patients (12%)	11/67 patients (16%)	0.47
Major or CRNMB within 6 months of discharge	17/97 patients (18%)	9/67 patients (13%)	0.47
MACE within 6 months of discharge	7/97 patients (7%)	0/67 patients (0%)	0.09

Note: CRNMB = clinically relevant non-major bleeding, MACE = major adverse cardiovascular event

DISCUSSION

- No statistically significant difference in ASA deprescribing rates between groups; likely influenced by higher prevalence of prior PCI and aortic disease in post-intervention group, which may contribute to provider hesitancy to deprescribe
- No statistically significant differences in clinical outcomes: in-hospital or 6-months major or CRNMB and MACE, though numerical trends were observed
- Real-world registries such as ORBIT-AF show that 20-30% of anticoagulated patients remain on dual antithrombotic therapy without a valid indication
- The findings demonstrate evidence that pharmacists contribute to ASA deprescribing efforts in the inpatient setting, supporting feasibility and acceptability of a provider-pharmacist collaborative approach
- Study limitations include:
  - Retrospective design
  - Designated indications for ASA were not assessed
  - ASA indication appropriateness was subject to individual clinical judgment
  - Primary intervention focus of the clinical pharmacy initiative was triple antithrombotic therapy
  - No regression analysis performed

CONCLUSION

- There was an unanticipated trend toward decreased ASA deprescribing rates post-intervention, which may be due to provider hesitancy to deprescribe ASA in patients with any history of PCI
- These results highlight an opportunity to further develop antithrombotic stewardship methods for clinical pharmacists to reinforce and/or reimplement antiplatelet indication assessment and subsequent clinical management for these high-risk, combination antithrombotic patients

DISCLOSURE

The authors of this presentation have nothing to disclose. There are no conflicts of interest or funding sources for this study.

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