

Timing of dual antiplatelet therapy (DAPT) initiation post mechanical thrombectomy with stent placement in acute ischemic stroke

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Disclosure Statement

- These individuals have the following to disclose concerning possible financial or personal relationships with commercial entities (or their competitors) that may be referenced in this presentation.
 - Mallory Stringer, PharmD (nothing to disclose)
 - Co-Investigators and Project Advisor
 - Eric Shaw, PhD (nothing to disclose)
 - Osman Perez, DO (nothing to disclose)
 - Emily Bowers, PharmD (nothing to disclose)

Background

- Timing of antiplatelet therapy following mechanical thrombectomy
 - After thrombolytics – delayed 24 hours
 - Without thrombolytic administration – no recommendations
 - After stent placement – no recommendations

Stroke. 2019;50(12):e344-e418.

Background

Design

- Retrospective review, single center, n=6

Methods

- Patients treated with alteplase within 4.5 hours
- Underwent MT and stent placement
- Initiation of antiplatelet therapy within 24 hours of alteplase

Primary Outcome

- Incidence of symptomatic intracranial hemorrhage (ICH)

Results

- No incidences of symptomatic ICH
- Time between alteplase and antiplatelet initiation = 4.9 hours (IQR 3.0-6.7 hours)

Conclusion

- Study results support the potential safety of early antiplatelet administration following alteplase in selected stroke patients

J Cerebrovasc Endovasc Neurosurg. 2020;22(1):1-7.

Purpose

- To assess the safety of early initiation (less than 24 hours) of dual antiplatelet therapy (DAPT) compared to standard initiation (24 hours or greater) in acute ischemic stroke patients that underwent mechanical thrombectomy and stent placement

Objectives

Primary Outcome

- Bleeding, defined as any radiologic evidence of intracranial hemorrhage

Secondary Outcomes

- Composite neurological outcome
 - Unplanned neurosurgical intervention and/or
 - Neurologic decompensation (change in mental status or GCS, or need for intubation)
- Blood pressure control
- Length of stay
- Discharge disposition

Methodology

- Single-center, IRB-approved, retrospective chart review
- March 1, 2020 to January 1, 2023
- 622-bed academic medical center and DNV certified comprehensive stroke center

Methodology

Inclusion Criteria

- Adult patients admitted for acute ischemic stroke
- Underwent mechanical thrombectomy plus acute stent placement
- Received aspirin and clopidogrel

Exclusion Criteria

- Pregnant
- Incarcerated
- Less than 18 years old

Results

Table 1. Baseline demographics

	Early DAPT n=7	Standard DAPT n=7	P-value
Age in years	61 (10)	69 (8)	0.11
Male gender, n (%)	6 (86)	4 (57)	0.56
Past Medical History, n (%)			
Cardiovascular disease*	2 (29)	4 (57)	0.59
Prior stroke or transient ischemic attack	3 (43)	1 (14)	0.56
Hypertension	5 (71)	5 (71)	1
Diabetes mellitus	1 (14)	1 (14)	1
Atrial fibrillation	0 (0)	0 (0)	1
Prior to admission antiplatelet use, n (%)	3 (43)	2 (29)	1
Prior to admission anticoagulant use, n (%)	0 (0)	0 (0)	1
Baseline NIHSS‡ score	18 (7)	22 (7)	0.29
Baseline mRS† score	2 (2)	1 (1)	0.19
Thrombolytic therapy prior to mechanical thrombectomy, n (%)	1 (14)	4 (57)	n/a

All values reported as mean (±SD) unless otherwise noted.

*Cardiovascular disease included any history of coronary artery disease, peripheral vascular disease, hyperlipidemia, or myocardial infarction; ‡ National Institutes of Health Stroke Scale; † Modified Rankin Scale

Results

Primary outcome:
Bleeding, n (%)

Early DAPT
n=7

Standard DAPT
n=7

2 (29)

4 (57)

$P = 0.6$

Results

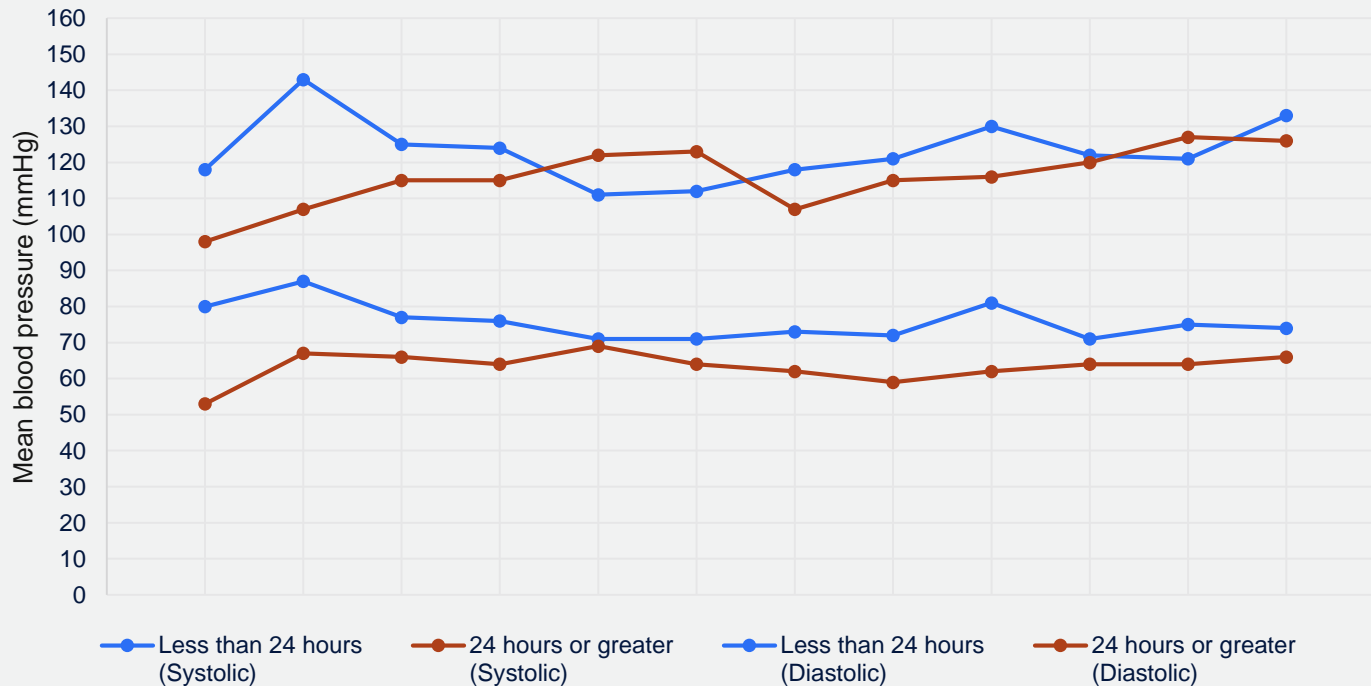
Table 2. Neurological outcome

	Early DAPT n=7	Standard DAPT n=7	P-value
Composite neurological outcome*	5 (71)	4 (57)	1
Unplanned neurosurgical intervention	1 (14)	0 (0)	1
Change in mental status or Glasgow Coma Scale	4 (57)	3 (43)	1
Need for mechanical intubation	3 (43)	3 (43)	1

*Defined as any unplanned neurosurgical intervention and/or neurologic decompensation (change in mental status or Glasgow Coma Scale, or need for mechanical intubation)

Results

Figure 1. Blood pressure control following intervention



Results

Table 3. Disposition

	Early DAPT n=7	Standard DAPT n=7	P-value
Hospital length of stay in days	15 (16)	9 (6)	0.42
ICU length of stay in days	1 (14)	0 (0)	0.41
Discharge disposition, n (%)			0.72
Home	0 (0)	1 (14)	
SNF/LTAC*	3 (43)	3 (43)	
Hospice	2 (29)	2 (29)	
Death	2 (29)	1 (14)	

*LTAC: long-term care facility, SNF: skilled nursing facility

Conclusion

- DAPT initiation within 24 hours of MT and stenting did not result in an increased risk of bleeding compared to initiation at 24 hours or greater
 - 2 patients (early DAPT) versus 4 patients (standard DAPT), $p=0.6$
 - Blood pressure was well controlled in both groups
 - No patients received thrombolytic therapy (early DAPT) compared to 2 patients (standard DAPT)
- Limitations
 - Single center, retrospective, sample size
 - Not powered to detect a difference
- Literature in this population is significantly lacking
 - One prior study including 6 patients

Acknowledgements

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