

## Mechanical Thrombectomy for Stroke Complicating Cardiac Interventions

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### Introduction

Acute ischemic stroke (AIS) complicating cardiac interventions (CI) is well described. The use of mechanical thrombectomy (MT) for treatment of acute ischemic stroke (AIS) in this setting, however, is not widely reported, particularly in the stent-retriever era.

### Methods

Cases of patients undergoing MT for AIS at a single neurovascular institution were reviewed. Cases preceded by recent CI were investigated retrospectively. Data was collected for patient demographics, type of cardiac intervention, stroke characteristics, neurovascular intervention, and patient outcomes.

### Results

Between 2008 and 2017, registry analysis identified nine patients treated with MT for AIS complicating recent CI. Patients were largely male (78%) with a mean age of 67 years. A large majority had a known cardiac arrhythmia (67%). Coronary artery bypass graft surgery (CABG) was the most commonly identified CI (44%), followed by valve repair (22%), and cardiac ablations (22%). A majority of patients developed AIS three to five days after the CI (56%). Mean presenting NIHSS was 18. 67% of cases presented with moderate to severe (NIHSS 16-20) or severe (NIHSS 21-42) symptoms at onset. Most presented with hemiplegia (89%). Only one patient received intravenous thrombolytics.

Seven cases were found to have MCA occlusions with the remaining cases involving AIS of the

### Outcomes

	n	%
<b>Immediate NIHSS after MT</b>		
0-4	1	11%
5-15	4	44%
16-20	3	33%
21-42	1	11%
<b>Best NIHSS within 72 hours of MT</b>		
0-4	2	22%
5-15	3	33%
16-20	3	33%
21-42	1	11%
<b>Immediate change in NIHSS</b>		
Improved > 10 points	1	11%
Improved 6 to 10 points	2	22%
Improved 1 to 5 points	4	44%
Unchanged	1	11%
Worsened 1 to 5 points	1	11%
<b>Hemorrhagic transformation</b>	3	33%
<b>Mortality</b>	3	33%
<b>mRS at discharge</b>		
0-3	2	22%
4-5	4	44%
6	3	33%

### Conclusions

AIS following recent CI is associated with high rates of mortality and poor functional outcomes despite MT. Further work is needed to understand the key drivers to poor outcomes in this difficult subgroup.

### Learning Objectives

1. Cardiac interventions can be complicated by acute ischemic stroke
2. Mechanical thrombectomy in AIS following CI is not well described
3. Functional outcomes are poor in AIS following CI despite MT

### References

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