

Using the ADAPT Technique for the Treatment of Acute Ischemic Stroke in Distal Cerebral Artery Occlusions

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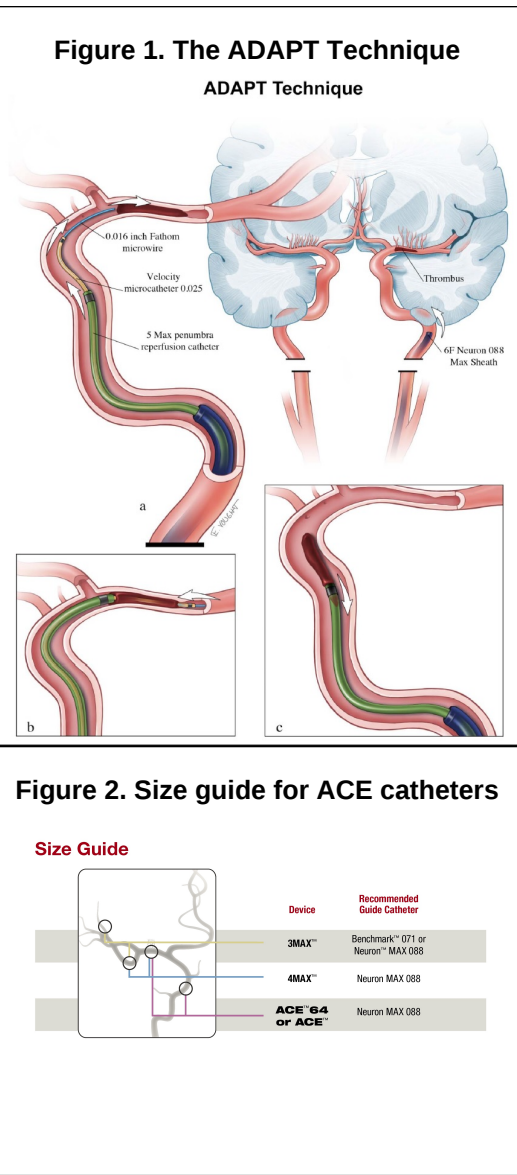


Introduction

Treatment options for acute ischemic stroke have rapidly evolved. Development of new revascularization devices has led to faster recanalization rates and better outcomes. The ADAPT technique is a simple and fast method for achieving good angiographic and clinical outcomes using large bore aspiration catheters. We present our results in the use of the technique with distal anterior circulation occlusions.

Methods

Retrospective analysis from a prospectively maintained database was gathered on patients undergoing thrombectomy with ADAPT technique for lesions in distal MCA and ACA at the Medical University of South Carolina. Parameters captured included age, gender, NIHSS score at presentation, time to presentation from last normal, and modified Rankin Scale score at 90-days. Radiological and angiographic imaging was reviewed to document location of vascular occlusion, TIC1 how post procedure, and procedural complications.



Average Presenting NIHSS	14.1
IV tPA	15 (42.9)
Onset to puncture (hours)	7.1
Final TIC1	
0	0
1	0
2a	1
2b	4
2c	14
3	16
NIHSS (Average)	14.1
mRS	
Not available	3
mRS 0-2	19 (59.4)
mRS 3-5	13 (40.6)
mRS 6	0 (0)
Location (Primary)	
ICA	2 (5.7)
M1	1 (2.9)
M2	28 (80)
Vertebrobasilar	3 (8.6)
ACA	1 (2.9)
Location (Tandem)	
M2	4 (57.1)
M3	1 (14.3)
P2	1 (14.3)
A2	1 (14.3)

Results

36 patients with thrombus in distal middle cerebral or anterior cerebral arteries were treated. 20 were female. Average age was 65 years. Patients presented with mean NIHSS score of 13.8. 15 received IV tPA. Average time from onset to puncture was 7.41 hours. 30 patients (83.33%) presented with M2 occlusion, and one presented with an A3 occlusion (2.78%). Two (5.56%) had basilar occlusions with additional lesions in left M2 divisions. One patient had a left ICA occlusion with tandem lesions in left M2 and A2, another had a right ICA occlusion with tandem lesion in right M2. One had a left M1 occlusion with tandem lesion in ipsilateral M3. Average time to recanalization was 33.58 minutes. TIC1 2B or better was achieved in 35 patients (97.2%). 8 (22.22%) required adjunctive techniques. 90-day mRS was available in 33 patients, and averaged 1.97. 60.6% of patients had an mRS of 0-2 at 90 days. No patients died.

Conclusions

The ADAPT technique is a safe and effective tool for distal anterior circulation ischemic strokes.