



Introduction

Internal carotid artery (ICA) angioplasty and stenting is a treatment modality for patients with acute stroke that is associated with carotid artery occlusion. Here we investigate the use of this combined technique and evaluate the results and outcomes of carotid artery recanalization in patients presenting with acute ischemic stroke.

Methods

Over six months, five patients with acute ischemic stroke associated with cervical ICA occlusion underwent combined ICA angioplasty and stenting with or without intracranial mechanical thrombectomy. A retrospective review was completed and clinical variables were evaluated. Thrombolysis in cerebral ischemia (TICI) score was used to define the degree of recanalization, and a favorable outcome was defined as a Modified Rankin Scale (mRS) score of 0–3 at 90 days.

Table 1: Patient Data				
Patient age	NIHSS	Carotid artery	TICI	mRS (90d)
77	19	L ICA	3	2
50	18	L ICA	3	4
70	18	L ICA	3	-
55	16	R ICA	3	3
49	-	L ICA	3	2

Results

The mean patient age was 60.2 (range 49-77) and the mean presenting National Institute of Health Stroke Scale was 17.8 (range 16-19). Out of all patients, four had complete occlusion of the left ICA and one had complete occlusion of the right ICA. In four patients there was concomitant intracranial occlusion. The time from symptom onset to endovascular intervention was less than or equal to 3 hours in three patients, 10 hours in one patient and unknown in the other patient. Internal carotid angioplasty with stenting was completed in all patients. A TICI score greater than IIb was achieved in 100% of patients and grade III was achieved in 60% of patients. The 90 day mRS was 0-2 in 40% of patients and 0-3 in 60% of patients.

Conclusions

Clinical outcomes suggest that carotid artery angioplasty and stenting is a useful and reasonable technique for carotid artery recanalization in patients undergoing treatment for an acute ischemic stroke. Further studies need to be completed to assess the overall safety and efficacy of this combined technique for use of treatment in acute ischemic stroke.

References

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