Angioplasty without Stenting for Symptomatic Intracranial Atherosclerotic Stenosis

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Introduction

The SAMMPRIS study stopped recruiting patients due to higher than expected perioperative morbidity of primary stenting in patients with symptomatic intracranial stenosis. An alternative treatment, submaximal angioplasty without stenting, performed concurrently to SAMMPRIS, may offer revascularization benefits, with lower incidence of stenting-related risks. To present the results of a consecutive case series of primary submaximal angioplasty procedures performed for symptomatic severe atherosclerotic intracranial stenosis refractory to medical treatment.

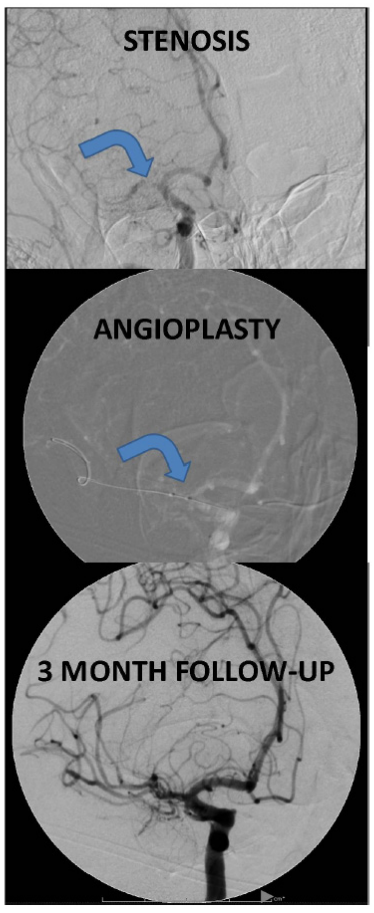
Methods

Database review identified primary submaximal angioplasty procedures performed in 41 patients for treatment of >70% intracranial stenosis associated with an acute, symptomatic ischemic event in the distribution of the diseased vessel. For results analysis, 30-day events were reported as a percentage of patients treated. One-year periprocedure and ischemic-event-free survival was reported as a percentage of all patients treated and displayed graphically with a Kaplan-Meier survival curve.

Results

Three events in 41 patients included 1 intraprocedural vessel perforation, 1 reperfusion hemorrhage <24 hours postoperatively, and 1 transient ischemic attack 3 months postprocedurally (30-day event rate 2/41, 0.49%). Median clinical follow-up duration after submaximal angioplasty was 19 months, with >1 year follow-up available for 32 patients. One-year perioperative and ischemic-event-free survival was high(29/32 patients, 91%).

CASE EXAMPLE



42 year old man presenting with TIA ipsilateral to high-grade MCA stenosis. Resolution of stenosis and no symptoms in follow-up after submaximal angioplasty.

Conclusions

In this series, periprocedural safety of submaximal angioplasty in the setting of acute, symptomatic atherosclerotic intracranial stenosis was demonstrated. Although direct comparison is impossible as many patients were ineligible for stenting procedures, the complication profile compares favorably with rates of identically defined event-free survival for patients randomized to medical(88%) and surgical(77%) arms of SAMMPRIS, despite absence of aggressive medical management.

References

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