Both the left ICA angiogram and the left vertebral artery ICA through the proximal middle cerebral artery (MCA). occlusion (Fig 1A) with clot extending from the terminal inclusions confirmed the presence of a terminal right ICA hemisphere. Cerebral angiography following the MR exam-
demonstrated a decrease of cerebral blood flow on the right periventricular corona radiata, MR angiograms revealed a tensity extending from the right basal ganglia to the weighted MR images (DWIs) showed mild high-signal in-
Health Stroke Scale (NIHSS) score was 19. Diffusion-
face, and left sensory deficits. His National Institutes of weakness and difficulty speaking. On physical examination,
Discussion

Acute embolic occlusion of the terminal ICA results in a poor outcome in many patients, and it is technically difficult to achieve complete recanalization with intravenous or intraarterial thrombolytic therapy (1). Although a previous study reported that additional mechanical clot disruption with intracranial balloon angioplasty following failed thrombolysis could achieve partial recanalization of the embolic occlusion of the terminal ICA, limited clinical improvement was achieved after the procedure (8). Recanalization might be beneficial in patient with acute ischemic stroke without extended high signal intensity on preprocedural DWI, because the lack of recanalization...
Lasso, which has been designed to grasp objects by present case is based on a stainless basket, not a small snare type and size. The microsnare used in the clots are near the tip of the guiding catheter. In terminal ICA to the proximal ICA by microsnare and the clots are extracted from the region from the tretony using a guiding catheter (9) may increase when the success rate of transarterial suction thrombectomy using the microsnare basket. The clot in acute embolic stroke patients. Therefore, previous studies have described clot removal by PMT (3–7) or suction thrombectomy (9) in the treatment of acute ischemic stroke, and these strategies may capture large or partially organized hard clot, which can rarely be disrupted by thrombolysis or balloon angioplasty alone.

Microsnares have been used to retrieve foreign bodies, wires, and coils located inside the blood vessel. Qureshi et al (10) reported the efficacy of these devices to disrupt clots mechanically for the treatment of acute ischemic stroke, and these strategies may capture large or partially organized hard clot, which can rarely be disrupted by thrombolysis or balloon angioplasty alone.

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The microsnare was not used to disrupt clots, but to retrieve them. Although the benefits of PMT in acute ischemic stroke have been anecdotally reported in previous studies (3–7), the present case may be the first report of successful PMT for embolic occlusion of the terminal ICA without the use of pharmacologic thrombolysis. Excellent clinical outcome is ascribed to the technique of proximal flow blockade to support retrieval of the clot and to avoid migration of captured clots, which was reported by Mayer et al (4) in the treatment of basilar artery embolism. Complete recanalization would not have been achieved in the present case without proximal ICA blockade, because the bulk of the clots were finally aspirated through the guiding catheter while flow in the proximal ICA was blocked, not by mechanical thrombectomy using the microsnare basket. The success rate of transarterial suction thrombectomy using a guiding catheter (9) may increase when the clots are extracted from the region from the terminal ICA to the proximal ICA by microsnare and the clots are near the tip of the guiding catheter. In addition, the technical success of PMT depends on snare type and size. The microsnare used in the present case is based on a stainless basket, not a small lasso, which has been designed to grasp objects by using the endovascular approach. A basket diameter greater than that of the occluded vessel must be chosen to ensure complete clot entrapment, especially when a smaller one has failed to capture the clots.

One of the potential advantages of PMT when compared with pharmacologic thrombolysis is the rapidity with which the vessel is opened. In the present case, no additional treatment was required to recanalize distal branch occlusion, and the time for obtaining an angiographic diagnosis and extracting the clots was 45 minutes, which is somewhat longer than that reported by Wikholm (7) because of the time required to prepare the proximal flow blockade system. The other potential advantage of PMT is the theoretically lower risk of symptomatic intracerebral hemorrhage due to the absence of a lytic state, and it can expand the time window for interventional stroke treatment. By contrast, the potential disadvantages of PMT are clot fragmentation with distal embolization, arterial dissection, perforation, or spasm. To avoid distal embolization during retraction of the clots, proximal flow blockade by inflation of the coaxial balloon on the guiding catheter and use of sufficient suction are necessary. Distal embolization often occurs in acute ischemic stroke patients undergoing angioplasty-assisted intraarterial thrombolysis, and, in such treatment, an intraarterial infusion of thrombolytic agents is thought to be useful to soften the clot for mechanical disruption and aid in the delayed thrombolysis of a distal thromboembolism (11). By contrast, primary use of the microsnare before pharmacologic thrombolysis or intracranial balloon angioplasty (4, 7) may be desirable in PMT because it will be difficult to capture soft, small clots arising from thrombolysis or angioplasty. To avoid the potential risk of vessel damage due to dissection, perforation, or spasm, careful and gentle catheter manipulation is essential, and the microcatheter should be navigated up to the distal portion of the clot, and the microsnare should be deployed through the microcatheter with an absolute minimum of manipulation.

**Conclusion**

Because many factors—including the presence of collateral flow to the occluded vessel, the time to treatment, and the baseline neurologic severity—may influence clinical outcome in patients undergoing PMT, careful selection of the candidates is essential to obtain good clinical outcomes. Because of the relative rigidity of basket retrieval devices, their use for clot extraction in small cerebral branches may prove to be not feasible. Although the risks and benefits of PMT in the treatment of acute embolic stroke are unknown, the result in the present case suggests that PMT is feasible, safe, and effective in the treatment of patients with acute embolic occlusion of the terminal ICA and indicates a clinical trial in a larger number of patients would be important (12).
References

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