Intervention The role of mechanical-thrombectomy (MT) in cerebral venous sinus thrombosis (CVT) is ambiguous.

Aim To share our experience with MT in CVT, supplemented by a meta-analysis on this treatment.

Methods All patients who had MT for CVT at our institution, between 2016 and 2021, were retrospectively reviewed for treatment indications, technique used, success & complication rates and clinical outcomes.

Meta-analysis was performed for clinical and safety outcomes from published literature with > 10 patients.

Results There were 15 patients included for this study. All of them had a venous hemorrhage or were deteriorating despite anticoagulation. MT was performed using aspiration (with wide bore catheters) in 7 patients: aspiration with stentretriever in 5 and a transjugular thrombectomy with Fogarty-balloon in 3 patients. Adjunctive IST was used in 4 cases and venoplasty in 3. Technical success (restoring antegrade venous flow on arterial injection) was 100% with no procedure-related major complication. Direct transjugular approach was cheaper and faster. At 3-month follow-up 86% of patients had good outcomes (MRS <2).

Meta-analysis of clinical and safety outcomes from 20 and 17 studies respectively, demonstrated positive association between MT and good outcomes (OR = 6.58 [3.09, 14.00]; p < 0.001) and no significant association with hazardous periprocedural events.

Conclusion MT for CVT is safe and effective. We propose transjugular approach and MT with embolectomy balloons as an effective but cheaper and faster option. Notwithstanding the positive association, heterogeneity of the published data limits a robust meta-analysis on the role of MT in CVT.

REFERENCES

Do you have any conflict of interest to declare?: Yes
Conflict of Interest Statement Consulted and/proctored for Penumbra, Medtronic and Stryker

The presence of aneurysms in target vessels with large vessel occlusion undergoing mechanical thrombectomy (MT) can pose a major challenge, as current recanalization techniques usually involve blind thrombus passage with microwire and/or microcatheter. According to previous literature, the prevalence of aneurysms is relatively increased in the stroke population1. Previous case reports and retrospective studies indicate that patients with large vessel occlusion and concomitant aneurysm of the carrier vessel should not be deprived of mechanical recanalization, but there is a relevant risk of vessel perforation with subarachnoid hemorrhage and poor clinical outcome1. The value of targeted techniques such as ADAPT (A Direct Aspiration first Pass Technique)2 in this constellation is unclear to date. We present a case in which a patient with a right-sided MCA M1 occlusion (NIHSS 30) and concomitant mediabifurcation aneurysm was fully recanalized (TICI 3) using a modified ADAPT technique, without prior passage of the thrombus as previously described by Turc et al.2. To us, the avoidance of blind aneurysm passage by microwire and microcatheter appears to be a major advantage of the method used. Instead, the aspiration catheter was advanced via a 0.035 Terumo guide wire for proximal stabilization. Thrombus was aspirated with proximally inflated BGC and repeated imaging series up to visualization of the aneurysm neck. Thus, blind probing of the mediabifurcation including the aneurysm was avoided and even residual thrombus adjacent to the aneurysm neck was removed. The patient benefited significantly with an improvement in NIHSS from 30 to 8 during his hospital stay. We conclude that this technique represents an interesting and potentially useful method for mechanical recanalization in the presence of a concomitant aneurysm of the carrier vessel. To what extent (modified) ADAPT is superior to other methods of mechanical recanalization in this constellation should be investigated in multicenter (e.g. registry) studies.

REFERENCES

Detailed on-screen video footage of the procedure is available for presentation.

Written informed consent was obtained from the patient (BMJ consent form).

MECHANICAL THROMBECTOMY USING A MODIFIED ADAPT (A DIRECT ASPIRATION FIRST PASS TECHNIQUE) IN A PATIENT WITH M1-OCCLUSION AND CONCOMITANT MCA-ANEURYSM

T Demerath*, A Elbaz, H Urbach, C Taschner. Medical Center – University of Freiburg, Neuroradiology, Freiburg, Germany

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The presence of aneurysms in target vessels with large vessel occlusion undergoing mechanical thrombectomy (MT) can pose a major challenge, as current recanalization techniques usually involve blind thrombus passage with microwire and/or microcatheter. According to previous literature, the prevalence of aneurysms is relatively increased in the stroke population1. Previous case reports and retrospective studies indicate that patients with large vessel occlusion and concomitant aneurysm of the carrier vessel should not be deprived of mechanical recanalization, but there is a relevant risk of vessel perforation with subarachnoid hemorrhage and poor clinical outcome1. The value of targeted techniques such as ADAPT (A Direct Aspiration first Pass Technique)2 in this constellation is unclear to date. We present a case in which a patient with a right-sided MCA M1 occlusion (NIHSS 30) and concomitant mediabifurcation aneurysm was fully recanalized (TICI 3) using a modified ADAPT technique, without prior passage of the thrombus as previously described by Turc et al.2. To us, the avoidance of blind aneurysm passage by microwire and microcatheter appears to be a major advantage of the method used. Instead, the aspiration catheter was advanced via a 0.035 Terumo guide wire for proximal stabilization. Thrombus was aspirated with proximally inflated BGC and repeated imaging series up to visualization of the aneurysm neck. Thus, blind probing of the mediabifurcation including the aneurysm was avoided and even residual thrombus adjacent to the aneurysm neck was removed. The patient benefited significantly with an improvement in NIHSS from 30 to 8 during his hospital stay. We conclude that this technique represents an interesting and potentially useful method for mechanical recanalization in the presence of a concomitant aneurysm of the carrier vessel. To what extent (modified) ADAPT is superior to other methods of mechanical recanalization in this constellation should be investigated in multicenter (e.g. registry) studies.

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E Mohammad Hosseini*, A Rasekhi. Namazi Hospital, Shiraz University of Medical Sciences, Neurosurgery, Shiraz, Iran, Islamic Republic of

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Internal carotid aneurysm include paracranial, ophtalmic, posterior communicating, anterior choroidal and ICA Bifurcation.

These aneurysm manifest with different symptoms like SAH, retro orbital pain, diplopia...

In this case i present 56 years old lady with 2 unruptured left ICA aneurysm.

Primary coiling of 2 aneurysms were done and patient discharge home with normal neurologic exam.