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Commentary to: Transcarotid Mechanical Thrombectomy for Embolic Intracranial Large Vessel Occlusion after Endovascular Deconstructice Embolization for Carotid Blowout Syndrome

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The authors reported their successful bailout experience of transcarotid mechanical thrombectomy of an intracranial embolic occlusion after parent vessel sacrifice due to an impending carotid blowout syndrome.[1]

Endovascular management of carotid blowout syndrome is one of the most urgent experiences for a neurointerventionist who must make fast and critical decisions under suboptimal conditions. The patient is usually chronically ill and may be vitally unstable due to the bleeding. There is a lack of information on the vascular anatomy, and usually no premedication has been prescribed. Deconstructive parent vessel occlusion or reconstructive stent-graft placement can be endovascular options for treating carotid blowout syndrome with regards to the anatomy and collateral circulation.[2-4] An ischemic complication is a concern related to the endovascular treatment and may be related to hemodynamic insufficiency following deconstructive treatment or thrombo-embolic complications caused by the reconstructive treatment without sufficient pre/post antiplatelet medications.[2] Intra-procedural embolic stroke from migration of the embolic materials or thrombus formed during deconstructive treatment can be another potential complication as seen in this report.[1]

Similar to the carotid stump syndrome, a thrombus formed from stasis of blood in the internal carotid artery (ICA) with distal migration by antegrade/collateral flow or migration of thrombus formed in the common carotid artery/external carotid artery (ECA) through ECA-ICA anastomosis can be potential mechanisms.[1,5] For prevention of this complication, ICA sacrifice from the level proximal to the ophthalmic artery to the site of carotid rupture may be considered to prevent potential petrocavernous ECA-ICA collateral flow related to thrombus migration. Some physicians advocate the use of dual lumen balloons for antegrade flow arrest during embolization.[6]

In this study, endovascular management of an intracranial occlusion was complicated because the parent vessel was sacrificed. Thrombolytic drugs were not an option due to concerns of hemorrhage. In this regard, direct carotid puncture is a technique that has regained interest as a feasible intracranial access option for patients with a poor

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vascular anatomy.[7] Despite the added difficulties of an occluded proximal parent vessel (ICA) and the irradiated neck in this patient, the authors have successfully bailed out of a difficult situation by judiciously executing the carotid access technique under fluoroscopic guidance and achieving timely mechanical recanalization of the intracranial occlusion.

REFERENCES

1. Lu CJ, Lin YH, Lee CW. Transcarotid mechanical thrombectomy for embolic intracranial large vessel occlusion after endovascular deconstructice embolization for carotid blowout syndrome. *Neurointervention* 2020;15:37-43
2. Wan WS, Lai V, Lau HY, Wong YC, Poon WL, Tan CB. Endovascular treatment paradigm of carotid blowout syndrome: review of 8-years experience. *Eur J Radiol* 2013;82:95-99
3. Pyun HW, Lee DH, Yoo HM, Lee JH, Choi CG, Kim SJ, et al. Placement of covered stents for carotid blowout in patients with head and neck cancer: Follow-up results after rescue treatments. *AJNR Am J Neuroradiol* 2007;28:1594-1598
4. Kim HS, Lee DH, Kim HJ, Kim SJ, Kim W, Kim SY, et al. Life-threatening common carotid artery blowout: rescue treatment with a newly designed self-expanding covered nitinol stent. *Br J Radiol* 2006;79:226-231
5. Xu Z, Wang J, Luo B. Interventional recanalization as a treatment of carotid stump syndrome caused by right internal carotid artery occlusion: a case report. *Medicine (Baltimore)* 2019;98:e17152
6. Gonzalez LF, Albuquerque FC, McDougall CG, Conerly K, Hiscock TY, Chumbley K, et al. Neurointerventional techniques : Tricks of the trade. New York: Thieme, 2015
7. Roche A, Griffin E, Looby S, Brennan P, O'Hare A, Thornton J, et al. Direct carotid puncture for endovascular thrombectomy in acute ischemic stroke. *J Neurointerv Surg* 2019;11:647-652