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# Dual SAVE technique for mechanical thrombectomy rescue on MCA bifurcation clots

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## ABSTRACT

The Stent retriever Assisted Vacuum-locked Extraction (SAVE) technique in mechanical thrombectomy consists of the simultaneous use of a stent retriever and a distal aspiration catheter, with the removal of both as a unit when performing the thrombectomy pass. This is a safe procedure that provides a high rate of first-pass reperfusion.<sup>1</sup> In the distal M1 segment of the middle cerebral artery (MCA) occlusions, with the distal portion of the clot extending to the upper and lower MCA branches, mechanical thrombectomy can be challenging since the thrombus is not fully trapped, with risk of distal clot migration to the branch in which the retriever is not placed. In these cases the double stent-retriever technique has been described as a rescue strategy.<sup>2–4</sup> We describe a case of the combined use of SAVE and double stent-retriever techniques as a rescue strategy in a patient with tandem occlusion of the proximal internal carotid artery and distal MCA—the D-SAVE technique. (video 1)

**Correction notice** This article has been corrected since it was published Online First. The acknowledgements section was added.

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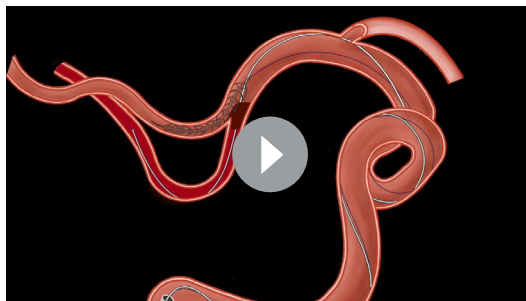
## REFERENCES

- 1 Maus V, Behme D, Kabbasch C, *et al*. Maximizing first-pass complete reperfusion with save. *Clin Neuroradiol* 2018;28:327–38.
- 2 Asadi H, Brennan P, Martin A, *et al*. Double stent-retriever technique in endovascular treatment of middle cerebral artery saddle embolus. *J Stroke Cerebrovasc Dis* . 2016;25:e9–11.
- 3 Klisch J, Sychra V, Strasilla C, *et al*. Double solitaire mechanical thrombectomy in acute stroke: effective rescue strategy for refractory artery occlusions? *AJNR Am J Neuroradiol* 2015;36:552–6.
- 4 Patro SN, Iancu D. Dual-stent retrieval for mechanical thrombectomy of refractory clot in acute stroke as a rescue technique. *CMAJ* 2017;189:E634–7.



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video 1.