

Long-term outcome of rescue stenting for acute stroke

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Following successful randomized clinical trials, endovascular mechanical thrombectomy (EVT) with a stent retriever or contact aspiration is now one of the standard treatment for acute stroke due to intracranial large vessel occlusion (LVO). EVT failure may occur due to anatomical challenges (e.g., a tortuous arterial tree from the aortic arch to a target occlusion site), a large quantity of clots, tandem occlusion, clot characteristics (fresh versus organized clots), different pathomechanisms (embolic versus non-embolic occlusion), etc. Given that recanalization success is the most important factor in the neurological outcome of acute stroke patients, it is important to seek solutions for such difficult cases. Furthermore, fast recanalization is the most critical factor leading to favorable outcome. If one can rightly judge what the best endovascular modality is in his or her case, time to recanalization could be shortened, which might give a more chance of favorable outcome. To set up an optimal endovascular strategy, one should consider 1) the most likely occlusion etiology and 2) the best endovascular modality for the occlusion etiology.

EVT seemed less effective to intracranial atherosclerotic stenosis related LVO (ICAS [+]-LVO) than embolic LVO (ICAS [-]-LVO). With the technical complexity and demanding, it might be quite challenging to open ICAS (+)-LVO with recent pivotal endovascular modalities such as stent retriever or contact aspiration thrombectomy. Recently multiple studies has documented that permanent stenting after failure of thrombectomy in ICAS-LVO was effective and safe rescue option in terms of 3-month clinical outcome as well as final successful recanalization rate.

In this presentation, I will briefly review the results of the recent studies in which rescue stenting was applied in ICAS-LVO after failure of conventional thrombectomy and evaluate the long-term (> 1-year) outcomes of the patients who had received rescue stenting.