

# Editorial on “Is there a benefit of mechanical thrombectomy in patients with large stroke (DWI-ASPECTS $\leq$ 5)?”

Jan Gralla<sup>1\*</sup> and Urs Fischer<sup>2</sup>

<sup>1</sup>Department of Diagnostic and Interventional Neuroradiology, University Hospital Bern and University of Bern, Switzerland

<sup>2</sup>Department of Neurology, University Hospital Bern and University of Berne, Switzerland

The manuscript entitled “Is there a benefit of mechanical thrombectomy in patients with large stroke (DWI-ASPECTS $\leq$  5)?” concludes that endovascular reperfusion of stroke patients with large infarct volume (DWI-ASPECTS  $\leq$  5) leads to a significant better neurological outcome compared to non-recanalised patients. These results put a spotlight on the discussion of “futile recanalization”. The term describes the observation that patients show no clinical improvement despite successful endovascular recanalization. No doubt, these patients exist in clinical practice. However, in many centers “futile recanalization” is taken as an argument to refuse endovascular treatment in order to save resources and omit a necessary treatment risk for the patient. Endovascular stroke treatment, is highly effective for proximal vessel occlusions in the anterior circulation with a number needed to treat of 2.6 and with a low complication rate [1]. Refusing treatment is a “once in a life-time decision” for the individual patients, denying them a potential beneficial therapy. Furthermore, refusing a therapy berries the relevant risk of undertreating the population.

So, what defines “futile recanalization” and how reliable can we predict it.

1) In stroke trials, the artificial cut-off of 3-months-mRS 0-2 (so called favorable outcome), versus 3-5 has been chosen to compare treatment arms. However, for the individual patient, any shift in mRS due to treatment in the range of 0-5 is important, even or especially in the range of mRS 3-5. For the patient and his family, it is of utmost relevance, whether the patient lives with a mRS of 5 and severely disable in a nursery home compared to living disabled but at home with a mRS of 3. Furthermore, this shift has been illustrated to be highly cost-effective and therefore beneficial on the socio-economical level, even taking into account higher treatment cost for mechanical

thrombectomy. The only ethical issues are a shift of patients from mRS 6 to 5. However, the current literature and meta-analysis of stroke trials do not show a shift at this end of the mRS. Patients with a low potential to achieve mRS of 0-2 cannot be considered as candidates for futile recanalization! Any reasonable chance of a shift between mRS 0 and 5 is highly appreciated and clinically valuable.

2) How reliable is the prediction of “futile realization” or “no reasonable chance” of a mRS shift?

In the past various single parameters have been advocated and are clinically used to withhold endovascular therapy such as older age, high NIHSS, low ASPECTS score, large infarct volumes, late time window, etc. All the factors were derived from randomized controlled trials, which aimed to confirm a hypothesis and not aimed to improve the fate of individual patients. From our point of view, none of these single parameters has hold true so far. They all have a value to predict a lower chance of achieving favorable outcome. But in the comparison between those patients being treated/recanalised and those who were not - as in this paper - a clear clinical benefit can be illustrated. Whenever we scratch on the surface, such as in the HERMES meta-analysis, DAWN trial or papers like the current, a positive effect of EVT is found.

Endovascular stroke treatment is highly effective and shows low risk of complications. Refusing treatment remains multi-parametric decision taking into account various clinical and imaging finding –but for the time being: In doubt, treat!

## References

1. Goyal M, Menon BK, van Zwam WH, Dippel DW, Mitchell PJ, et al. (2016) Endovascular thrombectomy after large-vessel ischaemic stroke: A meta-analysis of individual patient data from five randomised trials. *Lancet* 387:1723-1731.

**Copyright:** ©2017 Gralla J. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

**Correspondence to:** Jan Gralla MD, MSc. Department of Diagnostic and Interventional Neuroradiology, University Hospital Bern and University of Bern, Switzerland. E-mail: Jan.Gralla@insel.ch

**Received:** June 09, 2017; **Accepted:** July 10, 2017; **Published:** July 13, 2017