

DEBATE: SHOULD ENDOVASCULAR THERAPY FOR ACUTE ISCHEMIC STROKE BE USED ROUTINELY IN CLINICAL PRACTICE? – COMMENTARY

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Endovascular therapeutic approaches for acute stroke are constantly evolving. It is clear that endovascular methods are more effective than IV tPA at opening occluded proximal vessels. Indeed, many consider that the dismal recanalization rates seen with IV tPA for ICA (and perhaps proximal M1-MCA) occlusions mean that endovascular therapy should be considered as either the primary treatment (in preference to IV tPA) or at least as 'rescue' should IV tPA fail to open the vessel.

There are four (closely related) issues with endovascular therapy for acute stroke:

1. Lack of high level evidence to prove superiority over IV tPA. This *may* come with the IMS-III trial in the next 2 years.

2. The clearly superior recanalization ability of endovascular or over IV therapy may not translate into improved clinical outcomes unless there is careful patient selection. Recanalizing dead brain is not likely to lead to superior clinical outcomes. Thus, advanced imaging to exclude patients with large pre-treatment infarct cores may be required in successful trials of endovascular therapy. This is not possible with non-contrast CT alone.

3. Time to recanalization may actually be quite long with these procedures. Even if there is not much infarct core pre-treatment there may be the time the vessel is open.

4. Limited availability. Thus, even if we do gain level I evidence for superiority of endovascular over IV therapy the approach may never have widespread applicability.

In conclusion, even though there is a very strong rationale for endovascular therapy in acute stroke we need more evidence and possibly better designed trials before it can be recommended as the standard of care. If it does prove superior, then we need to consider how are we going to deliver endovascular therapy to the majority of stroke patients around the world. Will the delays in accessing this therapy for most stroke patients outweigh any potential benefits?