Endovascular treatment for Small Core and Anterior circulation Proximal occlusion with Emphasis on minimizing CT to recanalization times (ESCAPE)

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Background

There is conflicting randomized trial evidence that modern endovascular therapy is better than routine care, including routine intravenous thrombolysis, for acute ischemic stroke. There is nevertheless, strong evidence that endovascular therapy can result in faster, more complete recanalization (high recanalization rates of about 80%) and that this should result in better stroke outcomes.

Methods

The ESCAPE trial was a Phase 3, randomized controlled, open-label with blinded outcome evaluation (PROBE) design. The primary objectives were to show that rapid endovascular revascularization (in addition to guideline based medical care) amongst radiologically selected (small core/proximal anterior circulation occlusion/good collaterals) patients with ischemic stroke results in improved outcome compared to patients treated in clinical routine (guideline based standard of care including IV-tPA as appropriate in a 4.5h window). The secondary objectives of this study were to demonstrate the safety and feasibility of achieving rapid endovascular revascularization in this population of patients (<90 min CT-recanalization). Primary efficacy outcome is the shift (common OR) on the mRS scale at 90 days.

Results

The study involved 22 sites in Canada, US, UK, Europe and South Korea. A total of 316 patients were randomized. The study was halted at the recommendation of the DSMB on 6nov2014 after an interim analysis revealed that the study had crossed a pre-planned overwhelming efficacy boundary. Follow-up continues on the remaining 72 patients in the trial. Final results will be presented at the ISC.

Conclusion

The pillars of the ESCAPE trial are: (1) careful patient selection using CT, CTA; (2) very fast treatment; (3) high quality reperfusion rates using modern devices. Endovascular therapy with careful imaging selection, very fast treatment and high reperfusion rates is associated with an overwhelming clinical benefit.

Disclosure
M.D. Hill: Research Grant; Significant; Covidien. Grant for clinical trial. Ownership Interest; Significant; Calgary Scientific Incorporated. Imaging company. Consultant/Advisory Board; Modest; Merck. Adjudicator for clinical trial.