Response to: Correspondence on 'Technique and impact on first pass effect primary results of the ASSIST global registry' by Gupta *et al*

We appreciate the correspondence regarding the potential benefit of balloon guide catheter (BGC) use on outcomes in the ASSIST registry.[1] We chose not to include BGC in the multivariable models as it is highly correlated with the technique used by the operator. The SR Classic technique requires BGC, and some catheters used in the SR Combination and Direct Aspiration groups were not compatible with BGC use or the operators did not use BGC as part of these two techniques. As our primary interest was current operator technique at the time of trial design, the inclusion of both technique and BGC in the model could have led to collinearity. We thus excluded BGC from the multivariable models.

Below we have included the univariate results; however, note that we still cannot fully distinguish whether an effect is due to technique or to BGC.

With all the techniques included in the analysis, subjects in whom BGC was used were associated with a higher proportion of good outcomes at 90 days (modified Rankin Scale (mRS) 0–2) of 59.4% versus 49.4% (p=0.02). There was no significant association between BGC use and first-pass Thrombolysis in Cerebral Infarction (TICI)≥2c (p=0.37). Analyses were adjusted for clustering within site. Similar results were observed in the SR Classic technique (where BGC use was mandated) which was excluded from our analysis.

The ASSIST registry was not designed to answer the question as to whether BGC use improves outcomes due to the nature of how current techniques are performed, but we agree a future study designed around the effectiveness of BGC would be of clinical benefit.

Rishi Gupta

Correspondence to Dr Rishi Gupta; guptar31@gmail.com

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ORCID iD

Rishi Gupta http://orcid.org/0000-0003-1505-2498

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1 Gupta R, Miralbés S, Calleja Bonilla A, *et al*. Technique and impact on first pass effect primary results of the ASSIST global Registry. *J Neurointerv Surg* 2024;021126:.