Avoiding Thrombolysis In Patients With Mild Stroke
Is It SMART?

David C. Tong, MD, FAHA, FAAN

The authors report that regardless of the combination of variables used, there was no significant relationship between the initial National Institutes of Health Stroke Scale score or syndrome subtype and patient outcome. These data refute the commonly held belief that specific neurological characteristics may accurately predict good neurological prognosis in patients with mild stroke. Based on these observations, it is more difficult to justify withholding therapy in patients with mild stroke solely based on a clinician’s prediction of patient outcome. The importance of this observation could be substantial given the large proportion of patients with mild stroke presenting soon after symptom onset.

This study reflects a growing consensus challenging the conventional wisdom of excluding patients from thrombolytic therapy based on specific patient subgroups. Clearly, many of the eligibility criteria used for IV thrombolysis unnecessarily excludes a significant proportion of patients from treatment. In the SMART study, for example, 90% of treated IV rtPA patients possessed at least 1 common IV rtPA exclusion criterion by conventional standards. Without these restrictions, a much higher percentage of patients could be eligible for thrombolytic therapy.

Some may question whether a formal clinical trial is necessary to determine definitively whether patients with mild stroke benefit from IV rtPA treatment. In an ideal world, this would certainly be desirable. Realistically, however, given the known difficulty of enrolling sufficient patients with acute stroke in clinical trials, it likely would take a long time to enroll sufficient patients with mild deficit. This is particularly true because the benefit in mild patients could be reduced by the ceiling effect, requiring a substantially larger sample size to detect a statistically significant difference between treated and untreated patients. There may also be ethical reluctance by some clinicians to enroll patients, especially at aggressive stroke centers that already routinely provide IV thrombolysis to mild patients. Similarly, it may be unrealistic to consider formal randomized clinical trials for other IV thrombolysis patient subgroups due to small group size and other analogous practical reasons.

In any event, until additional data become available, we must decide whether the overall risk/benefit ratio favors treatment based on our current imperfect information. Because few if any studies of specific IV rtPA patient subgroups report OVERALL harm from treatment, it seems reasonable to at least strongly consider patients with mild stroke for IV thrombolytic therapy.

It also appears that current thrombolysis guidelines need revision. This would not only better reflect the current state of scientific knowledge, but also give support to the clinician who may be interested in providing the option of IV...
thrombolysis to a specific patient but is reluctant to treat outside current published guidelines. Clarification of the precise meaning of existing thrombolysis exclusion criteria is also needed. The definition of mild symptoms, rapidly improving symptoms as well as other common thrombolysis eligibility criteria in current published guidelines is vague and subject to major misinterpretation. Fortunately, with adequate education, this can probably be remedied. In one study in which intensive education regarding thrombolytic inclusion criteria was instituted, IV rtPA treatment rates increased substantially.14

**Conclusions**

IV thrombolysis remains the only proven effective acute ischemic stroke treatment. Streamlining of treatment criteria might substantially increase the number of patients qualifying for treatment. It is imperative that this important aspect of IV thrombolytic treatment be addressed and efforts made to clarify the appropriateness of common eligibility criteria for treatment. Only in this way may we more safely and effectively increase the use of this approach and better achieve the ultimate goal of improved patient outcome.

**Disclosures**

Dr Tong is a consultant and on the speakers bureau for Genentech.

**References**


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