Thrombolysis with tissue plasminogen activator: Protocol violation is not an option

Sir,

I read with interest a recent article by Padma et al regarding thrombolysis with tissue plasminogen activator (tPA) in acute ischemic stroke (AIS). However, I would like to make certain observations.

Patients were thrombolysed without obtaining the coagulation profile in this study. Out of 54, six patients (11.1%) had hemorrhagic complications- five patients developed hemorrhagic infarction (HI) and one developed intracranial hemorrhage (ICH). Though these were asymptomatic and nonfatal, these could result in poor prognosis. In a recent study, the proportion of patients with good outcome after thrombolysis was 41% in those without any hemorrhagic transformation, whereas the proportion dropped to 17-30% in patients with HI and even lower in those with parenchymal hematoma.

Another study reported a higher incidence of symptomatic and asymptomatic ICH with protocol violations (prolonged prothrombin time and activated partial thromboplastin time).

The time to reach emergency ranged up to 3.4h in this study. However, it should be noted that intravenous thrombolysis is approved only within 3h of stroke onset. Intravenous thrombolysis beyond 3h increases the rate of symptomatic, asymptomatic and fatal ICH, without improving the recovery rate.

Therefore, I think it is dangerous to perform thrombolysis for AIS with protocol violations (such as without obtaining coagulation profile or after the 3h window period) and every effort should be made to strictly adhere to the NINDS protocol.

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References