Arrival Time to Stroke Unit as Crucial a Measure as Arrival Time to Emergency Department

To the Editor:

We concur with Alexandrov in her recent editorial that “late arrival to the hospital after the onset of acute stroke symptoms is a plague of unheralded proportion . . .” .1 We are currently conducting a large multicenter, randomized trial in 19 acute stroke units in NSW, Australia.2 This study, funded by Australia’s National Health and Medical Research Council, aims to rigorously evaluate a multidisciplinary, team-building intervention to improve evidence-based management of fever, hyperglycemia and dysphagia in patients after acute stroke.2

Like most acute stroke therapies,3 our intervention is aimed at salvaging the ischemic penumbra and, as such, admission to an acute stroke unit within 48 hours of stroke symptom onset is one of our inclusion criterion. Patients arriving at an acute stroke unit after this time are unlikely to benefit from our intervention.

A preliminary analysis of our baseline data showed one quarter of our ineligible patients (25.5%; n=340) were excluded from the study because they did not arrive at a participating stroke unit within 48 hours of onset of stroke symptoms. Unfortunately, we are unable to determine from our data whether this admission delay was due to a lack of bed availability in acute stroke units or a delay in patients seeking medical assistance. Although clinicians at participating sites assure us the delay between presentation at the Emergency Department (ED) and admission to their stroke unit is minimal, we have no state-wide data to confirm or refute this. Either way, our data support Alexandrov’s1 and Jarrell’s4 call for improved organization of prehospital stroke care, improved stroke education for healthline personnel, improved stroke service delivery on arrival in the ED and improved public awareness that stroke is a medical emergency.

Although prompt arrival at an appropriate ED within 3 hours of stroke onset enables patients to be considered for tissue plasminogen activator therapy,5 not all acute stroke therapies, such as our intervention to manage fever, hyperglycemia and dysphagia will be managed appropriately in the ED. This creates an additional imperative, and indeed a further quality metric1 for a reduction in time from symptom onset to stroke unit admission (rather than just ED admission) in order to improve patient outcomes after stroke.

Interestingly, the median time from symptom onset to arrival at a participating stroke unit for eligible patients (ie, those arriving within 48 hours of symptom onset) in our study was 10 hours (n=706).

Alexandrov reports the difficulty “to gauge on a national level exactly what symptom onset to emergency department arrival times are”.1 Publication of our state-wide data for time from symptom onset to admission to an acute stroke unit in NSW, Australia’s most populous state goes some way to determining patient delay in receiving optimal stroke unit care.

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Disclosures

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