Prehospital Blood Pressure Differentiates Acute Stroke From Stroke Mimics

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Introduction

• Blood pressure (BP) management in acute stroke remains controversial despite several randomized controlled trials

• Prehospital BP trials in patients with acute stroke symptoms are currently underway
  - RIGHT-2 & FAST-BP (Glyceryl Trinitrate), PIL-FAST (lisinopril)

• Hypotheses:
  1. Prehospital BP will remain stable during EMS transport
  2. Prehospital BP is higher in acute stroke patients compared to stroke mimics
Methods

All patients with EMS dispatch code for suspected stroke

Serial BP measurements

- NACRS (ED records)
- In-hospital patient charts
- Neuroimaging

Total study population: 960

1,060 eligible patients with suspected stroke

Patients excluded:

(62) EMS data could not be linked to in-hospital charts
(13) EMS vital signs not recorded
(25) In-hospital charts unavailable

366 (38.2%) Ischemic Stroke

51 (5.3%) Intracerebral Hemorrhage (ICH) + 9 SAH

117 (12.2%) Transient Ischemic Attack (TIA)

416 (43.2%) Stroke Mimics
Results

Error bars represent Standard error of the mean

$R^2 = 0.73, \ p < 0.001$
Conclusions

1. Higher mean prehospital SBP may help differentiate acute stroke from stroke mimics.

1. Mean Prehospital SBP is highest in ICH patients.

2. Given the stability of prehospital SBP and the strong correlation with ED SBP, it may be reasonable to begin antihypertensive therapy during EMS transport of acute stroke patients.