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Impact of Early Mobilization on 90-Day Outcomes in Thrombectomy Patients

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Impact of Early Mobilization on 90-Day Outcomes in Thrombectomy Patients
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Results

Background / Objective
An early mobility protocol was used to increase early mobilization for ischemic stroke patients post IV alteplase treatment at two urban certified stroke centers. A prior study conducted at these hospitals showed that early mobilization did not worsen 90-day outcomes.1

To our knowledge, there are no studies evaluating outcomes of early mobilization after thrombectomy.2

Given the increased treatment time window, more patients will be eligible for thrombectomy.2

The objective of this study was to determine whether earlier mobilization of patients impacted outcomes at 90 days for thrombectomy patients treated per the early mobility protocol.

Methods
Medical records of ischemic stroke patients receiving thrombectomy at two urban certified stroke centers between May 2013 and December 2017 were reviewed for early mobilization per the early mobility protocol (within 24 hours of groin puncture).

Mobilization was started after groin precautions were complete and the groin puncture site was stable.

Patients who did not expire in hospital and had complete data were included in the analysis.

Ordinal regression was used to determine if, with each hour delay in time first mobilized, patients' functional outcomes worsened at 90 days using the modified Rankin scale (mRS), adjusting for pre-symptom onset mRS, admission NIHSS, age, sex, and post-treatment thrombolysis in cerebral infarction (TICI) grade.

Of 147 patients mobilized within 24 hours, 91 patients were included in the analysis. (Table)
- Median NIHSS on admission was 16 [interquartile range (IQR): 11, 21]
- 85.7% (n=78) had a post-treatment TICI score of 2b or greater.
- Median time first mobilized was 14.1 hours [IQR: 9.4, 19.1].
- Ordinal regression showed no evidence that earlier mobilization had an effect on patient outcomes at 90 days. Patients were neither worse nor better by time-first-mobilized within the first 24 hours (p=0.79). (Figure)

Table. Patient Characteristics

<table>
<thead>
<tr>
<th></th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>50.5 (46)</td>
</tr>
<tr>
<td>Mean age (SD)</td>
<td>68.7 (13.9)</td>
</tr>
<tr>
<td>Median NIHSS at admit [IQR]</td>
<td>16.0 [11.0, 21.0]</td>
</tr>
<tr>
<td>Post Treatment TICI Grade</td>
<td></td>
</tr>
<tr>
<td>Less than 2b</td>
<td>14.4 (13)</td>
</tr>
<tr>
<td>2b or greater</td>
<td>85.7 (78)</td>
</tr>
<tr>
<td>Pre-Onset Modified Rankin</td>
<td></td>
</tr>
<tr>
<td>No symptoms / no disability</td>
<td>73.6 (67)</td>
</tr>
<tr>
<td>Any disability</td>
<td>26.4 (24)</td>
</tr>
<tr>
<td>90-Day Modified Rankin</td>
<td></td>
</tr>
<tr>
<td>No symptoms / no significant disability</td>
<td>26.4 (24)</td>
</tr>
<tr>
<td>Slight / moderate disability</td>
<td>37.4 (34)</td>
</tr>
<tr>
<td>Severe disability / expired</td>
<td>36.3 (33)</td>
</tr>
</tbody>
</table>

Conclusions
Ischemic stroke patients receiving thrombectomy were mobilized within 24 hours of groin puncture by the early mobility protocol.

This study showed that early mobilization had no impact on patient outcomes at 90 days by time first mobilized. This result may have been limited by small sample size.

References