BACKGROUND & AIM

• Stroke is a medical emergency requiring timely intervention to optimize patient outcomes.
• The only current FDA-approved treatment for acute stroke is intravenous (IV) thrombolytics. This treatment is time-sensitive and limited to stroke patients who present within 4.5 hours after last seen at their neurological baseline.
• Exclusion criteria in the administration of IV thrombolytics make pertinent medical history vitally important to timely treatment decision. Often these key details are missed in the prehospital setting and during hand-off communication between emergency medical services (EMS) and hospital staff, which can delay the time to treatment.
• Research has demonstrated patients who receive IV thrombolytics after 45 minutes of hospital arrival have both worse long-term outcomes and higher readmission rates at 1 year.
• The aim of this project is to decrease time to acute stroke treatment with an IV thrombolytic.

METHODS & MEASURES

• Creation and implementation of an orange stroke alert sticker for use by Alachua County Fire Rescue (ACFR) to gather and document vital information in the field to be used for all suspected stroke patients in our community.
• Details on the sticker include:
  ✓ Date & Time of Last Known Well
  ✓ Mobile Phone Number of Contact
  ✓ Presenting Stroke Symptoms
  ✓ Current Medications
• Descriptive Statistics and Independent Samples t-test were used to evaluate the impact of the stroke alert sticker on “door to needle” (DTN) times.
• Primary outcome: Time to acute stroke treatment with IV thrombolytics, DTN, as measured in minutes.
• Patient variables:
  ✓ NIHSS on arrival
  ✓ Age
  ✓ Sex
• System variable:
  ✓ Utilization of the stroke alert sticker

RESULTS

<table>
<thead>
<tr>
<th>Total</th>
<th>Stroke Alert Sticker</th>
<th>No Stroke Alert Sticker</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients</td>
<td>N=220</td>
<td>n=88</td>
<td>n=132</td>
</tr>
<tr>
<td>Age</td>
<td>67 ± 16</td>
<td>69 ± 15</td>
<td>66 ± 17</td>
</tr>
<tr>
<td>Female</td>
<td>114 (52%)</td>
<td>44 (50%)</td>
<td>70 (53%)</td>
</tr>
<tr>
<td>NIHSS</td>
<td>11 ± 9</td>
<td>10 ± 8</td>
<td>11 ± 9</td>
</tr>
<tr>
<td>Pre-hospital Notification</td>
<td>207 (94%)</td>
<td>87 (99%)</td>
<td>120 (91%)</td>
</tr>
<tr>
<td>Thrombolytics Administered</td>
<td>N=21</td>
<td>n=13</td>
<td>n=8</td>
</tr>
<tr>
<td>NIHSS</td>
<td>11 ± 7</td>
<td>12 ± 7</td>
<td>9 ± 6</td>
</tr>
<tr>
<td>Door to Needle Time (minutes)</td>
<td>39 ± 18</td>
<td>31 ± 11</td>
<td>51 ± 21</td>
</tr>
<tr>
<td>Tenecteplase</td>
<td>12 (57%)</td>
<td>8 (62%)</td>
<td>4 (50%)</td>
</tr>
<tr>
<td>Pre-hospital Notification</td>
<td>19 (91%)</td>
<td>13 (100%)</td>
<td>6 (75%)</td>
</tr>
</tbody>
</table>

• With sticker utilization, the stroke alert metrics were also improved: Door to CT Completed average was 5 minutes vs 15 minutes without sticker. Door to Labs Resulted average was 10 minutes vs 20 minutes without sticker.
• With sticker utilization, DTN time was reduced by 20 minutes (31 ± 11 minutes with sticker vs 51 ± 20 without sticker (p = 0.03))

CONCLUSION

• Our study demonstrates that utilization of the stroke alert sticker significantly improved DTN times for acute stroke patients in the subject group compared to those patients without the sticker.
• This finding is essential and demonstrates the importance of striving for efficient DTN time for long term patient benefits.
• EMS plays a vital role in the care timeline for acute stroke patients with identification of symptoms in the field and delivering them to the appropriate certified stroke center for treatment.
• The use of the orange stroke alert sticker is a simply yet effective intervention, and enhances team awareness resulting in prompt assessment and rapid treatment decisions.
• Additionally, implementation and utilization of the stroke alert sticker was low maintenance, cost effective and easily adaptable for both EMS and the in-hospital healthcare teams.
• This evidence supports continued use of the stroke alert sticker and further research to increase survivorship and decrease disability from stroke.

ACKNOWLEDGEMENTS

• Thank you to ACFR and Chris Drum for partnering with the UF Health Shands Comprehensive Stroke Center to improve stroke care for our community!