Lessons Learned in Caring for Patients Treated With Therapeutic Hypothermia

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Interprofessional Stakeholders
Physicians
- Knowledge and ownership critical
- Includes all appropriate medical specialties, i.e. critical care, cardiology, neurology, palliative care, and ED

Nurses
- Early adapters and patient advocates
- Includes direct care nurses, managers, educators and advanced practice nurses

Administrative Personnel
- Support and promote program
- Includes nurses and physicians

Coordination of Care
Mobilization of trained interprofessional staff via ‘Ice Alert’ page
↓
Rapid interventions at intake site, i.e. ED, catheterization lab
↓
Dedicated placement in Cardiac ICU (CICU)
↓
Division of standard work according to protocol among ICU staff during induction phase

Critical Elements for Success

Case Analysis
Daily
- Real time at bedside
- Primary nurse and TH nursing expert

Monthly
- TH committee meetings
- Interprofessional, emphasizing processes and opportunities for improvement

Global Database Participation
INTCAR - International Cardiac Arrest Registry
- Abstraction of data metrics to correlate and compare with international standards of care
- Comparison of results for changes and improvements in practice

Outcomes

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>LVHN N=371</th>
<th>INTCAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total ischemic time (minutes, median)</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>Initial rhythm (VF/VT %)</td>
<td>35.7</td>
<td>42.2</td>
</tr>
<tr>
<td>% Bystander CPR</td>
<td>36.7</td>
<td>39.1</td>
</tr>
<tr>
<td>% Out of hospital arrest</td>
<td>80.9</td>
<td>74.2</td>
</tr>
<tr>
<td>Time from arrest to initiation of temperature management (minutes, median)</td>
<td>146</td>
<td>90</td>
</tr>
<tr>
<td>% Urgent cardiac cath in patients with STEMI</td>
<td>81.3</td>
<td>80.9</td>
</tr>
<tr>
<td>% Urgent cardiac cath in patients with VT/VF initial rhythm</td>
<td>54.0</td>
<td>62.1</td>
</tr>
<tr>
<td>% Patients with goal temperature achieved (of patients undergoing temperature management)</td>
<td>93.6</td>
<td>96.5</td>
</tr>
<tr>
<td>% Life support withdrawal due to neurological futility &lt;48h after arrest</td>
<td>13.5</td>
<td>18.3</td>
</tr>
<tr>
<td>% Survival to hospital discharge</td>
<td>27.6</td>
<td>39.3</td>
</tr>
<tr>
<td>% Good neurological function at follow up</td>
<td>70</td>
<td>77.8</td>
</tr>
</tbody>
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Future State
- Core physician TH team - cardiologist, neurologist, intensivist, and palliative medicine specialist
- Ongoing refinement based on evidence
- Long-term follow-up of TH patients after discharge
- Patient support group

References:

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