The behavior of atrial fibrillation in patients with heart failure hospitalization

Authors:
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On behalf: Kokura Congestive Heart Failure Registry

Topic(s):
Acute Heart Failure – Epidemiology, Prognosis, Outcome

Citation:

Background:

Relationship between atrial fibrillation (AF) and heart failure (HF) is often compared with proverbial question of which came first, the chicken or the egg. Some patients showing AF at the HF admission result in restoration of sinus rhythm (SR) at discharge. It is not well elucidated that the restoration into SR during hospitalization can render the preventive effect for rehospitalization.

Purpose:

To investigate the impact of restoration into SR during hospitalization for readmission rate of the HF patients showing AF.

Methods:

We enrolled consecutive 640 HF patients hospitalized from January 2015 to December 2015. Patients data were retrospectively investigated from medical record. Patients showing atrial fibrillation on admission but unrecognized ever were defined as "incident AF"; patients with AF diagnosed before admission were defined as "prevalent AF". Primary endpoint was a composite of death from cardiovascular disease or hospitalization for worsening heart failure. Secondary endpoints were death from cardiovascular disease, unplanned hospitalization related to heart failure, and any hospitalization.

Results:

During mean follow up of 19 months, 139 patients (22%) were categorized as incident AF and 145 patients (23%) were categorized as prevalent AF. Among 239 patients showing AF on admission, 44 patients were discharged in SR (39 patients in incident AF and 5 patients in prevalent AF). Among incident AF patients, the primary composite end point occurred in significantly fewer in those who discharged in SR (19% vs. 42% at 1-year; 23% vs. 53% at 2-year follow-up, p=0.005). To compare the risk factors related to readmission due to HF with the cox proportional-hazards model, AF only during hospitalization [Hazard Ratio (HR)=0.37, p=0.01] and prevalent AF (HR=1.67, p=0.04) was significantly associated. There was no significant difference depending on LVEF.

Conclusion:

Newly diagnosed AF with restoration to SR during hospitalization was a good marker to forecast future prognosis.
Abstract: P6355
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### Graph

**AF only during hospitalization**

**Discharge with AF**

<table>
<thead>
<tr>
<th>Interval (Days)</th>
<th>0</th>
<th>30</th>
<th>365</th>
<th>730</th>
<th>1095</th>
</tr>
</thead>
<tbody>
<tr>
<td>N of patients at risk</td>
<td>220</td>
<td>188</td>
<td>105</td>
<td>60</td>
<td>10</td>
</tr>
<tr>
<td>N of patients with event</td>
<td>21</td>
<td>85</td>
<td>103</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Cumulative Incidence</td>
<td>10.0%</td>
<td>42.2%</td>
<td>53.4%</td>
<td>66%</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
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<th>30</th>
<th>365</th>
<th>730</th>
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</tr>
</thead>
<tbody>
<tr>
<td>N of patients at risk</td>
<td>43</td>
<td>35</td>
<td>25</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>N of patients with event</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Cumulative Incidence</td>
<td>5.3%</td>
<td>19.1%</td>
<td>22.4%</td>
<td>42.5%</td>
<td></td>
</tr>
</tbody>
</table>

*Logrank p=0.005*