ASSERT-II
Sub-Clinical (SCAF) in Older Asymptomatic Patients

Commentary

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AHA Scientific Sessions
November 15, 2016
### Incidence of CIED-detected SCAF

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>CIED</th>
<th>Incidence of AF</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRENDS 1</td>
<td>2010</td>
<td>PM/ICD</td>
<td>28%</td>
</tr>
<tr>
<td>TRENDS 2</td>
<td>2012</td>
<td>PM/ICD</td>
<td>30%</td>
</tr>
<tr>
<td>ASSERT I 3</td>
<td>2012</td>
<td>PM/ICD</td>
<td>34.7%</td>
</tr>
<tr>
<td>HEALEY 4</td>
<td>2013</td>
<td>PM</td>
<td>55.3%</td>
</tr>
<tr>
<td>CRYSTAL-AF 5</td>
<td>2014</td>
<td>ILR</td>
<td>12.4%</td>
</tr>
<tr>
<td>IMPACT 6</td>
<td>2015</td>
<td>ICD</td>
<td>34.8%</td>
</tr>
<tr>
<td><strong>ASSERT II 7</strong></td>
<td><strong>2016</strong></td>
<td><strong>ILR</strong></td>
<td><strong>34.4%</strong></td>
</tr>
</tbody>
</table>

- **Heterogeneity**
  - Patient population (CIED, ILR, CHA\textsubscript{2}DS\textsubscript{2}-VASc, prior stroke)
  - Definition of AF
  - Follow-up duration

- Incidence of SCAF: 12-55%
Risk of Clinical Atrial Tachyarrhythmias

Subclinical atrial tachyarrhythmias, without clinical atrial fibrillation, occurred frequently in patients with pacemakers and were associated with a significantly increased risk of ischemic stroke or systemic embolism.

Risk of Ischemic Stroke or Systemic Embolism

### CIED-detected AHREs and Stroke Risk

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>TE EVENT RATE</th>
<th>HAZARD RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITALIAN REGISTRY 1</td>
<td>2005</td>
<td>1.2%/YR</td>
<td>3.1</td>
</tr>
<tr>
<td>TRENDS 2</td>
<td>2009</td>
<td>1.2% OVERALL</td>
<td>2.2</td>
</tr>
<tr>
<td>CRT- REMOTE 3</td>
<td>2012</td>
<td>2.0% OVERALL</td>
<td>9.4</td>
</tr>
<tr>
<td>ASSERT I 4</td>
<td>2012</td>
<td>1.69%/YR</td>
<td>2.5</td>
</tr>
<tr>
<td>SOS 5</td>
<td>2014</td>
<td>0.39%/YR</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>ASSERT II</strong></td>
<td><strong>2016</strong></td>
<td><strong>-</strong></td>
<td><strong>-</strong></td>
</tr>
</tbody>
</table>

- **ASSERT II:**
  - CHA$_2$DS$_2$-VASc=4.14+1.36

- Most patients with implanted devices who experience ischemic stroke do not have AF immediately preceding the stroke
- AF does not directly increase stroke risk

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- **ASSERT-II:**
  - *Bridges a major gap in knowledge gap*

- **Major conclusion**
  - *SCAF is common in patients with and without prior stroke*

- **Implication**
  - *Substantially weakens the case that SCAF detection after stroke is linked to causality*
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- SCAF: Major remaining knowledge gaps
  - Temporal and causal relationship to stroke
  - Thresholds for increased stroke risk
    - AF duration, burden, CHA$_2$DS$_2$-VASc
  - Risks, benefits, costs of anticoagulation
  - Continuous versus intermittent anticoagulation
  - AF as a marker of stroke risk

- ASSERT II: Should we change practice?