Abstract: **P2827**

**Different views of sudden cardiac arrest characteristics according to the assessed population**

**Authors:**
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**Topic(s):**
Ventricular Arrhythmias and SCD - Epidemiology, Prognosis, Outcome: Epidemiology

**Citation:**
Background: Survival rate remains extremely low in sudden cardiac arrest (SCA) and death may occur at all stages of its management. We hypothesized that different medical care providers have different visions of the SCA population characteristics.

Purpose: To assess SCA characteristics among four groups: all-comers SCA, resuscitated SCA, SCA admitted alive to intensive care unit (ICU), and SCA admitted to cardiology.

Methods: Data was taken from the Paris Sudden Cardiac Death Expertise Center prospective registry that includes all adults presenting SCA in Paris and suburbs (6.7 millions). We compared SCA characteristics according to the management phase where the population was assessed.

Results: Of 18,622 out-of-hospital cardiac arrests occurring between 2011 and 2016, 15,207 fulfilled SCA criteria and had known resuscitation status. Among them, 9,721 SCA (63.9%) underwent resuscitation, leading to 3,349 SCA (22.0%) admitted to ICU, then 735 (4.8%) admitted to Cardiology. Mean age was highest in the global population (70.7yrs), and decreased progressively throughout the phases to 57.0yrs in cardiology (P<0.001). Ratio of male victims and rates of witnessed SCA and bystanders’ cardiopulmonary resuscitation and automated external defibrillator use increased gradually (all P<0.001). No flow duration decreased by a third (9.1min overall to 3.0min in cardiology, P<0.001). The rate of shockable initial rhythm increased drastically, from 19.5% overall to 26.8% in resuscitated patients, 48.9% in ICU-admitted SCA, and 89.4% in cardiology-admitted (Table).

Conclusion: Characteristics of SCA change considerably according to the assessed population, leading to different views on SCA reality. Keeping in mind the SCA population considered is paramount for a non-biased view of SCA.

<table>
<thead>
<tr>
<th></th>
<th>Entire SCA population n = 15,207</th>
<th>SCA with attempted resuscitation n = 9,721</th>
<th>SCA admitted to ICU n = 3349</th>
<th>SCA admitted to Cardiology n = 735</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years±SD)</td>
<td>70.7±16.9</td>
<td>65.8±16.1</td>
<td>59.7±15.7</td>
<td>57.0±14.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Male sex, n (%)</td>
<td>9,353 (61.6)</td>
<td>6607 (68.0)</td>
<td>2395 (71.5)</td>
<td>599 (81.5)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Home location, n (%)</td>
<td>12,297 (81.1)</td>
<td>7075 (73.0)</td>
<td>1906 (56.9)</td>
<td>269 (36.6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Bystander, n (%)</td>
<td>10,546 (71.2)</td>
<td>7545 (78.7)</td>
<td>3037 (90.7)</td>
<td>715 (97.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Bystander CPR, n (%)</td>
<td>5,684 (39.1)</td>
<td>4504 (47.7)</td>
<td>2120 (63.5)</td>
<td>583 (81.2)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Public AED use, n (%)</td>
<td>155 (1.0)</td>
<td>142 (1.5)</td>
<td>116 (3.5)</td>
<td>51 (6.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No flow, (min±SD)</td>
<td>9.1±12.5</td>
<td>7.5±10.4</td>
<td>5.3±6.6</td>
<td>3.0±3.8</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>EMS call-to-arrival delay, (min±SD)</td>
<td>10.2±5.8</td>
<td>10.1±5.7</td>
<td>10.1±6.1</td>
<td>9.6±6.4</td>
<td>0.068</td>
</tr>
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<th>Initial Shockable rhythm, n (%)</th>
<th>2,643 (19.5)</th>
<th>2529 (26.8)</th>
<th>1635 (48.9)</th>
<th>657 (89.4)</th>
<th>&lt;0.001</th>
</tr>
</thead>
</table>

SCA: sudden cardiac arrest; AED: automated external defibrillator; CPR: cardiopulmonary resuscitation; EMS: emergency medical service; ICU: intensive care unit