Temporary Neurotoxin Treatment to Prevent Postoperative Atrial Fibrillation

Discussion

Renate B. Schnabel, MD, MSc
Postoperative Atrial Fibrillation (POAF)

The Problem

Definition: New onset AF after major surgery in patients who were in sinus rhythm before surgery and had no prior history of AF.
Postoperative Atrial Fibrillation

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N=1503

10-45%

Mathew JP, JAMA 04, Steinberg BA, Clin Cardiol 14
Postoperative Atrial Fibrillation

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Mathew JP, JAMA 04, Steinberg BA, Clin Cardiol 14
# Postoperative Atrial Fibrillation

Adjusted risk of AF by Preoperative Prophylaxis

<table>
<thead>
<tr>
<th></th>
<th>Overall Use (%)</th>
<th>Frequency POAF (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCB</td>
<td>17</td>
<td>33</td>
</tr>
<tr>
<td>Beta blocker</td>
<td>72</td>
<td>30</td>
</tr>
<tr>
<td>Other ADD</td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>Soltalol</td>
<td>0.6</td>
<td>42</td>
</tr>
<tr>
<td>Amiodarone</td>
<td>11</td>
<td>26</td>
</tr>
</tbody>
</table>

Piccini JP, Am J Cardiol 13
Neurotoxin for Prevention of POAF
The Rationale
Neurotoxin for Prevention of POAF
The Rationale

Shen MJ, Circ Res 14
Neurotoxin for Prevention of POAF
Preliminary Data in Paroxysmal Atrial Fibrillation

Pokushalov E, Circ Arrhythm Electrophysioll 15
Postoperative Atrial Fibrillation Trial Results

11.3% lower risk

Log-rank $p = 0.17$

Nathan H. Waldron, AHA 2017
Assessed for eligibility vs treated 6.4% (130/2017)

Selected patients: hepatic or renal failure, LVEF <25% excluded

Possible imbalance of baseline variables

High beta blocker and statin use

Prior AF permitted

Clinically relevant outcomes (e.g. length of stay)

Mechanisms underlying the transient nature of post-operative AF remain unknown
Role of autonomic imbalance, particularly parasympathetic activation in POAF

Safe procedure

Transient effects by nondestructive procedure

Promising, innovative way of reducing POAF burden
Prof. Dr. med. 
Renate Schnabel

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