The role of the nurse specialist in SCD treatment/prevention

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Arrhythmia CNS
Population

• SCD continues to be a major public health challenge

• Majority of SCD remains in the subclinical IHD population

• Survival and longer term outcomes from CV disease is improving

• Number at risk of developing CVD is increasing

• Mass screening?

1 Wellens et al 2014
2 Priori et al 2015 2015 ESC Guidelines
Defining the problem

- All SCD
- Premature SCD
- Potentially preventable sudden cardiac death
- SCD is a symptom not a disease

- There is random nature to it
- But there are patterns within populations

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Wellens et al; *European Heart Journal*, Volume 35, Issue 25, 1 July 2014

<table>
<thead>
<tr>
<th>Health Category</th>
<th>% of all SCD</th>
<th>Predictability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not diagnosed with heart disease</td>
<td>45</td>
<td>Poor</td>
</tr>
<tr>
<td>History of heart disease: LVEF &gt; 40%</td>
<td>40</td>
<td>Limited</td>
</tr>
<tr>
<td>History of heart disease: LVEF &lt; 40%</td>
<td>13</td>
<td>Possible</td>
</tr>
<tr>
<td>Genetically based arrhythmic disease</td>
<td>2</td>
<td>Limited</td>
</tr>
</tbody>
</table>

SCD, sudden cardiac death; LVEF, left ventricular ejection fraction.
Do we seek to prevent

Without the protective effects of "insulin resistance" you might never stop enlarging.

"Insulin resistance" has been treated like a disease, but actually can be a lifesaver for those who eat large amounts of unhealthy foods.
Or do we teach the public to respond
What about the population we know?

• Risk stratification remains challenging
• Individualised risk prediction is inaccurate
• High number of SCD events still occur in groups thought to be at lower risk

Medical therapy

Device therapy
  – Little has changed in recent years
  – The population may have changed

1 Preserve trial currently on going NCT02124018
Issues with Guidelines

• Much of the guidelines on SCD focus on ICD and or CRT selection
  – Based on RCT’s that sought to take broad populations at increased risk and determine whether the device therapy can reduce overall mortality
  – May miss important groups who benefit and over treat others that do not

• Sub study cohorts and registries shed light on heterogeneities within studies but are often excluded from guidelines

# Real world ICD population

<table>
<thead>
<tr>
<th>QRS interval</th>
<th>NYHA class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>&lt;120 milliseconds</td>
<td>ICD</td>
</tr>
<tr>
<td>120–149 milliseconds without LBBB</td>
<td>ICD</td>
</tr>
<tr>
<td>120–149 milliseconds with LBBB</td>
<td>ICD</td>
</tr>
<tr>
<td>≥150 milliseconds with or without LBBB</td>
<td>CRT-D</td>
</tr>
</tbody>
</table>

LBBB, left bundle branch block; NYHA, New York Heart Association

1. Bilchick et al. JACC vol.60, No 17, 2012
Adherence to guidelines is variable.

Inconsistent application of ICD's and CRT.

Education is necessary.

Clear local pathways are required.

Patient choice is important.

On-going clinical management is crucial.
Dedicated clinics

• Heart failure
  – CRT utilisation is high
• Syncope clinics
• Palpitation clinics
• Rapid access chest pain
Non IHD patients

- Risk stratification
- Consensus guidelines

2015 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death

The Task Force for the Management of Patients with Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death of the European Society of Cardiology (ESC)
Risk

- Difficulties with perception and interpretation
- Patient/family/clinician conflict
- Particularly difficult when there is familial SCD
- Living with risk
- Therapeutic relationship
Interventions

• Medical therapy
  – Compliance & Adherence
  – Better pharmacological agents are needed
  – Personalised therapy

• Device therapy
  – Balance of benefit and harm
In summary

• Arrhythmia nurses have roles
  – In Societal education
  – Risk prevention through lifestyle modification
  – Diagnosis and active screening programs
  – Communicating risk
  – Treatment
  – Long term management and support
  – Contributing to research, registries and guideline refinement
Thank you