Atrial Fibrillation 2012

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1) 2006 ACC/AHA/ESC Guidelines: the Management of AF

2) 2007 Expert Consensus Statement on Catheter and Surgical Ablation of Atrial Fibrillation

3) Practical Rate and Rhythm Management of AF Pocket Guide 2010

4) 2011 Focused Update on the management of AF

www.acc.org  www.hrsonline.org
56 yo male

- Feeling poorly for 2 months
- AF by exam and ECG
- No medical Hx or family Hx
Basic AF-ology

- Initial focus on symptom relief and stroke prevention
- Evaluation for SHD
- Evaluate rate control
- Consider anticoagulation
- Consider cardioversion
Even in the absence of symptoms there are 2 ways AF can hurt you…..
<table>
<thead>
<tr>
<th>CHADS2</th>
<th>CHADS2 VASC</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CHF</td>
<td>• CHF/LV dysfunction</td>
</tr>
<tr>
<td>• Hypertension</td>
<td>• Hypertension</td>
</tr>
<tr>
<td>• Age &gt; 75</td>
<td>• Age &gt; 75 (2)</td>
</tr>
<tr>
<td>• Diabetes</td>
<td>• Diabetes</td>
</tr>
<tr>
<td>• Stroke/TIA (2)</td>
<td>• Stroke/TIA/TE (2)</td>
</tr>
</tbody>
</table>

Gage BF JAMA 285:2864-2870, 2001
Lyp GYH Chest 137:263-272, 2010
Stroke Risk in Patients With Nonvalvular AF Not Treated With Anticoagulation According to the CHADS$_2$ Index

<table>
<thead>
<tr>
<th>CHADS$_2$ Risk Criteria</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior stroke or TIA</td>
<td>2</td>
</tr>
<tr>
<td>Age &gt;75 y</td>
<td>1</td>
</tr>
<tr>
<td>Hypertension</td>
<td>1</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>1</td>
</tr>
<tr>
<td>Heart failure</td>
<td>1</td>
</tr>
</tbody>
</table>

- Stroke Rate % per year
  - 0: 1.9
  - 1: 2.8
  - 2: 4
  - 3: 5.9
  - 4: 8.5
  - 5: 12.5
  - 6: 18.2
Rate related cardiomyopathy
Restoring and maintaining sinus rhythm

- Drugs
- Pacer
- ICD
- Ablation
AF drugs…my take

- Betablockers
- Flec/Propaf
- Sotalol
- Amio/Dofet
- Dronedarone
- Ca blocker
- Dig

- Everybody
- Lone AF
- Good LV
- Bad LV
- Good LV
- Rate control
- CHF only
Atrial Fibrillation

Surgical Treatment

- Suture Lines
- Left Atrium
- IVC

MAZE PROCEDURE
Adapted from Cox et al. J Thorac Cardiovasc Surgery 1991;101:569
SPONTANEOUS INITIATION OF ATRIAL FIBRILLATION BY ECTOPIC BEATS ORIGINATING IN THE PULMONARY VEINS

MICHIEL HAÏSSAGUERRE, M.D., PIERRE JAÎS, M.D., DIPEN C. SHAH, M.D., ATSUSHI TAKAHASHI, M.D., MÈLÈZE HOCINI, M.D., GILLES QUINIOU, M.D., STÈPHANE GARRIGUE, M.D., ALAIN LE MOURoux, M.D., PHILIPPE LE MÈTAYER, M.D., AND JACQUES CLÉMENTY, M.D.

Challenges Using Ablation Catheter to Isolate PV
Catheter ablation of AF (RF in good candidates)

- Success rates 50-70%
- Complication rates 3-6%
- 25-30% redo ablation
Kaplan-Meier Curves of Time to Treatment Failure

Wilber, D. J. et al. JAMA 2010;303:333-340
Cryoablation

- Cryoadhesion
- Preserves endothelial integrity¹
- Decreases risk of thrombus formation¹

Cryoballoon ablation

- Ablates at the point of balloon contact
Cryoballoon ablation of AF

- Success rates >70%
- Low complication rates
- <10% redo ablation
AF Ablation
The “Cure”… where are we?

• The concepts are good
• The tools are getting better
• Current techniques are becoming more practical for widespread application
• Safety remains a concern
AF ablation remains a second line therapy for highly symptomatic patients who fail medical management or cannot/will not take medications (2006)

or first line therapy for selected patients (2011)
Things to consider

- Anticoagulation
- 3-4 hr general anesthetic
- Age
- Body habitus/wt
- Paroxysmal vs persistent
- Previous LA procedures