Management of Complex Atrial Arrhythmias

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# Objectives for Managing Atrial Arrhythmias

<table>
<thead>
<tr>
<th>Identify</th>
<th>Identify the difference and its impact on management between atrial flutter and coarse atrial fibrillation</th>
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<tbody>
<tr>
<td>Understand</td>
<td>Understand the significance of typical versus atypical atrial flutter</td>
</tr>
<tr>
<td>Familiarize</td>
<td>Familiarize with basic management options for invasive rhythm control management of complex atrial arrhythmias</td>
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<tr>
<td>Preview</td>
<td>A Patient Centered, Multi-disciplinary, Integrated Approach</td>
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Coarse Fib – Flutter?
“Of Course” that’s A-Fib
Why it matters to know the difference?

- Atrial Flutter is more difficult to *rate* control
- Atrial Flutter is much less likely to respond to *rhythm* control strategy
- Atrial Flutter is *curable* (if typical) with ablation
- Atrial Flutter is *easier and safer to ablate*
Atrial Fibrillation Mechanisms

(A) SVC
(B) RSPV
(C) LIPV
(D) RIPV

vein and ligament of Marshall

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Pulmonary Vein Isolation using Radiofrequency Ablation
PVI via Cryo

[Diagram showing the PVI via Cryo procedure with labels for the Integrated circular mapping catheter, Cryoballoon, Cryoballoon catheter, and 12-French steerable sheath.]
Activation Sequence of Typical Atrial Flutter (LAO View)
Atrial Flutter

Typical

Reverse Typical

Atypical
Atypical Atrial Flutter

A Perimital flutter

Around mitral annulus
Spontaneous posterior left atrial scar

B Left atrial flutter circuits

Around scar and pulmonary veins

C After previous atrial surgery

Around ipsilateral pulmonary veins
Circuits formed around suture lines and scar tissue
Flutter circuit around a pericardial ASD patch
Atrial Tachycardia versus Atrial Fibrillation and Flutter

- Implies a focal mechanism
- Slower than Atrial Flutter
- Organized like Flutter
- Not “thrombogenic”
- Can become A-fib at some point
AF is a widespread and growing problem

- AF is the most common arrhythmia in humans
- AF incidence is increasing as a result of the following causes:
  - Population Aging
  - Increased comorbid conditions which contribute to AF
  - Improvements in detection
The Problem of AF

- Underdiagnosis
- Inadequate treatment
  - i.e. the majority of AF related CVA occurs in patients not on appropriate AC
- Improper care variation especially among the following:
  - Among non-cardiovascular clinicians
  - Across geographies
- All lead to excess M & M
- Huge economic burden to communities and health systems
The Challenge of AF

• Managing the associated comorbidities such as:
  • Obesity, HTN, DM, ASHD & OSA
• To best manage these conditions the following are needed:
  • Other medical disciplines
  • Multiple healthcare providers including APPs
    • Often AF care can be fixated solely on rhythm control and neglects the other aspects
    • In other instances AF care may be managed by non-cardiovascular providers who often may not be up to date with current guidelines for AF management
Examples of Problems with AF

• Stroke prevention studies show
  • Underuse of Oral Anticoagulation (OAC) in appropriate patients
  • Overuse of OAC in low-risk patients
  • Ineffective dosing of OAC when used
The Vision of an AF-CoE

• Address all aspects of AF
  • Patient Centered
  • Multidisciplinary
  • Integrated Model of Care

• Reason for Value
  • Improved outcomes
  • Decreased costs
Coming Soon!

An Atrial Fibrillation Center of Excellence (AF-CoE)

- Lifestyle Modification
- Stroke Prevention
- Rate Control of AF
- Rhythm Control of AF