ATRIAL FIBRILLATION: Scope of the Problem

October 2015
Purpose of the Presentation

• Review the worldwide incidence and prognosis associated with atrial fibrillation (AF)
• Identify the types of AF, clinical assessment, important considerations in managing the patient with non-valvular AF
• Outline the components of a comprehensive approach to patient education and shared decision making
AF: Incidence

- Most common arrhythmia, increasing with age
- Affects 33.5 million worldwide
- Rates are higher in women
- Incidence increased 2-fold between 1990 and 2010
- Associated with 5-fold increased risk of stroke, 3-fold for HF and 2-fold for dementia and mortality
- Associated with a high risk of CV events and hospitalization
AF: Associated Outcomes

- AF-related strokes are more severe than other ischemic strokes.
- Risk of death from AF-related stroke is double non-AF stroke and cost of care is increased 1.5 fold.
- The annual cost of AF is estimated at over €13.5 billion in the EU and 26 billion dollars in the US alone.
- AF results in early retirement, reduced quality of life, increased need for rehabilitation, and increased burden to the health care system.
AF commonly travels with...

- Advancing Age
- Diabetes
- Valvular Heart Disease
- Atrial Fibrillation
- Obesity
- Heart failure
- Hypertension
- Lifestyle Factors
- Sleep Apnea
Common Comorbidities Among Medicare Beneficiaries >65

- Hypertension 83%
- Ischemic Heart Disease 63.8%
- Hyperlipidemia 62.1%
- Heart Failure 51.4%
- Anemia 42.3%
- Arthritis 39.8%
- Diabetes 36.5%
- CKD 32.3%
- COPD 23.2%

CMS Administrative Claims Data, Jan 2011 - Dec 2011, from the Chronic Condition Warehouse. 2012;
**AF Worsens the Prognosis of Patients with Comorbidities**

<table>
<thead>
<tr>
<th>Patients with new onset AF</th>
<th>Events</th>
<th>Risk</th>
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| **Hypertension**<sup>1</sup>  
  n = 88518  
  Follow-up: 4.8 ± 1 year | Cardiovascular events  
  Fatal and non-fatal stroke  
  Hospitalization for heart failure | × 1.88 |
| **CHF**<sup>2</sup>  
  n = 382  
  Follow-up: 5.6 years | Mortality in men  
  Mortality in women | x 1.6 |
| **MI**<sup>3</sup>  
  n = 17,749  
  Follow-up: 4 years | In-hospital mortality  
  Long-term mortality (4 years) | x 1.98 |

Mechanisms of AF

AF indicates atrial fibrillation, Ca\(^{2+}\) ionized calcium, and RAAS, renin-angiotensin-aldosterone system.

Types of AF

- Paroxysmal AF
  - AF that terminates spontaneously or with intervention within 7 days of onset
  - Episodes may recur with variable frequency
- Persistent AF: Continuous AF that is sustained > 7 days
- Longstanding persistent AF: Continuous AF > 12 months duration
Types of AF (continued)

- **Permanent**
  - Permanent AF occurs when there has been a joint decision by patient and clinician to cease further attempts to restore and/or maintain sinus rhythm.
  - Acceptance of permanent AF represents a therapeutic attitude on the part of patient and clinician rather than an inherent pathophysiological attribute of the AF.
  - Acceptance of permanent AF may change as symptoms, the efficacy of therapeutic interventions, and patient and clinician preferences evolve.
Types of AF (continued)

• Nonvalvular AF: AF that occurs in the absence of rheumatic mitral stenosis, a mechanical or bioprosthetic heart valve, or mitral valve repair
Goals of Management for AF

- Reduce morbidity and mortality and improve quality of life.
- Urgent care is required for:
  - Unstable patients (collapse / syncope or rapid heart rate [> 120 bpm]),
  - Transient ischemic attack or stroke, and heart failure
  - AF associated with a cardiac ischemic event or metabolic disorder requires treatment of the underlying cause
Goals of Management for AF (continued)

- Prevention of AF-related complications
  - Attempt conversion to sinus rhythm
  - Antithrombotic therapy
  - Rate control
  - Control of concomitant cardiac diseases
- Relief of Symptoms – Can be urgent:
  - Rate control - medical therapies
  - Rhythm control therapy
    - Cardioversion
    - Antiarrhythmic drug treatment
    - Ablation
AF with well controlled ventricular rate
AF with rapid ventricular rate
Clinical Evaluation of AF: Electrocardiogram

- Electrocardiogram, to identify
  - Rhythm
  - LVH
  - P-wave duration and morphology or fibrillation waves
  - Pre-excitation syndrome
  - BBB
  - Prior MI
  - Other atrial arrhythmias
Clinical Evaluation of AF: Echocardiogram

- Transesophageal Echocardiogram
  - Detect underlying structural/valvular heart disease
  - Atrial size
  - Presence of left atrial thrombi
    - 15% of patients will have LA thrombi
    - If present, cardioversion deferred until therapeutic anticoagulation is achieved
AF: Clinical Evaluation

- Electrophysiology (EP) study to evaluate presence of other atrial arrhythmias (AF with rapid rate and aberrant conduction can be mistaken for VT)
- Chest X-Ray to rule out cardiomegaly, pulmonary disease
- Comprehensive Blood tests
  - Thyroid
  - Renal Hepatic function
  - CBC, BNP, CRP
  - Others
AF: Functional Evaluation

- Six minute walk test
  - Assess for rate response and symptoms
- Exercise Testing
  - To reproduce exercise induced AF
  - Evaluate for ischemia
- Holter monitor, long-term monitor or event recorder
  - To assess type, frequency, duration, rate and associated symptoms with arrhythmia
Keeping Patients Safe: The “Need to Knows”

- Understand treatment options for re-establishing sinus rhythm
- Understand how to monitor symptoms
- Understand how to take pulse and what to do in case of an unusually fast or slow heart rate
- Understand the use and indications for calculation of bleeding risk
- Support adherence to oral anticoagulation therapy (OAT) - essential to stroke prevention
  - Pill boxes and other reminders can be helpful
  - What to do in case of illness
Keeping Patients Safe: The “Need to Knows”

• Encourage regular follow up for those patients taking novel oral anticoagulants (NOACs) when the opportunities of INR interface are not needed.
• Evaluate fall risk and fall precautions.
• Review signs of bleeding and when to seek immediate care.
• Notify the provider caring for their AF before making changes in medication regimen, including OTC agents.
Keeping Patients Safe: The “Need to Knows”

• Patients and family members/caregivers need to be fully informed of the goals of therapy, signs and symptoms of concern and when to seek medical care.
  • Chest discomfort indicative of ischemia
  • Fast or slow heart rhythms, new irregularly irregular rhythm
  • Pre-syncope or syncope
  • Evidence of bleeding
  • Unusual shortness of breath
Keeping Patients Safe: The “Need to Knows”

• Discuss OAT usage with all health care providers, including dentist and podiatrist prior to any invasive or surgical procedure (including colonoscopy, dental extraction, skin cancer removal etc.).
• Understand the need for regular lab and follow up visits.
• Understand that many medications (including over counter medications) may interact with OAT (especially warfarin) and rate/rhythm control medications.
• Be aware of which medications are most likely to interact with the OAT and rate/rhythm control medications.
Atrial Fibrillation

The Beat Goes On

Living with AFib

Discover Your Choices.

Know Your Heart.

Live Your Life.
“Shared decision-making is the process by which a health care provider communicates to the patient personalized information about the options, outcomes, probabilities, and scientific uncertainties of available treatment options and the patient communicates his or her values and the relative importance he or she places on benefits and harms.”
Shared Decision Making

- Preference sensitive condition?
- Both parties share information
- Clinician introduces the concept of patient participation in decision-making
- Clinician offers options and describes the associated risks, benefits
- Patient expresses his/her preferences/values: What matters to the patient and his family
- When more than one option exists, decision aids may be utilized prior to achieving consensus
Shared Decision Making

- Early shared decision-making (SDM) tools were in the oncology space.
- Tools are now being created for SDM for managing cardiovascular conditions and cardiovascular risk.
- SDM Tool for use in the AF patient is available at:
References


• The Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC), Guidelines for the management of atrial fibrillation, European Heart Journal 2010;31;2369–2429.

• The Global Burden of Atrial Fibrillation and Stroke A Systematic Review of the Epidemiology of Atrial Fibrillation in Regions Outside North America and Europe. Gregory Y. H. Lip, MD; Carolyn M. Brechin, PhD; and Deirdre A. Lane, PhD. CHEST 2012; 142(6):1489–1498.