Atrial Fibrillation

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KEYWORDS

• Atrial fibrillation • Electrical cardioversion • Valvular • Nonvalvular
• Risk assessment • Ablation • Rhythm-control • Rate-control

HOSPITAL MEDICINE CLINICS CHECKLIST

1. In patients with atrial fibrillation (AFIB), assess for symptoms (dizziness, lightheadedness, angina, palpitations, syncope).
2. Diagnostic studies in new-onset AFIB should include electrocardiogram, echo, and thyroid function tests. Know the pertinent clinical history to obtain from patients with AFIB and the diagnostic studies to obtain.
3. For most patients, rate control is preferred over rhythm control; however, cardioversion should be contemplated for those patients who are very symptomatic.
4. Use the $CHADS_2$ or CHA_2DS_2-VASc risk tools to estimate the risk for thromboembolic strokes.
5. Apply the HAS-BLED risk tool to estimate risk for major bleeding complications.
6. Understand what circumstances to consider nonpharmacologic treatment of AFIB.
7. Postoperative AFIB is very common; it can be reduced by preoperative beta-blockers and should be managed with rate control.

DEFINITIONS

What is the definition of atrial fibrillation?

Atrial fibrillation (AFIB) is an atrial arrhythmia characterized by the absence of distinct P waves on an electrocardiogram (EKG). It is commonly tachycardic, with the ventricular rate dependent on the degree of atrioventricular (AV) nodal blockade. Most of the inciting focus of the arrhythmia originates in or near the pulmonary vein. **Table 1** lists the commonly used nomenclature for the different types of AFIB.

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Table 1
Commonly used nomenclature for the different types of AFIB

Paroxysmal AFIB	Episodes lasting <7 d and *Spontaneously* converting to sinus rhythm
Persistent AFIB	Episodes lasting >7 d *unless* pharmacologically or electrically cardioverted to sinus rhythm
Permanent AFIB	AFIB resistant to multiple attempts at cardioversion
Recurrent AFIB	AFIB that recurs after an initial conversion to sinus rhythm; can refer to either paroxysmal or persistent AFIB
Lone AFIB	AFIB in patients aged <60 y in the absence of cardiopulmonary disease, including hypertension

AFIB can also be considered a secondary process induced by reversible medical conditions, such as pulmonary embolism, acute myocardial infarction, pericarditis, myocarditis, sepsis, thyrotoxicosis, alcohol abuse, or a postoperative state.

EPIDEMIOLOGY

AFIB is the most common arrhythmia encountered by internists, present in an estimated 2.2 million Americans. With the aging of the US population and increasing comorbidities, such as heart disease and congestive heart failure, there has also been an increase in AFIB prevalence and incidence, with a concomitant 66% increase of AFIB-related hospital admissions in the past 2 decades. The median age of patients with AFIB is 75 years, and it is present in approximately 8% of patients older than 80 years.[1]

HISTORY

What are the most common symptoms of AFIB?

With the loss of an organized contraction of the left atrium and the associated loss of the atrial kick to the left ventricular cardiac output, fatigue is a common symptom of AFIB. Additional symptoms related to a rapid-ventricular rate include palpitations, angina, lightheadedness, and possibly even syncope. Some patients with AFIB may be asymptomatic.

DIAGNOSIS

What are the diagnostic modalities for AFIB?

Most AFIB will be detected either by a standard 12-lead EKG or by telemetry in hospitalized patients, although the arrhythmia can be transient or paroxysmal. A 30-day cardiac event monitor can help detect paroxysmal AFIB. This monitor is indicated under certain clinical circumstances, such as evaluation in cryptogenic strokes, which will detect paroxysmal AFIB in approximately 20% of patients.[2]

What are the standard diagnostic studies to conduct with new-onset AFIB?

A transthoracic echocardiogram is essential to detect any structural heart disease, such as mitral stenosis or regurgitation, or any type of cardiomyopathy. The echocardiogram will differentiate between *valvular* (ie, rheumatic mitral valve) and *nonvalvular* AFIB, which has implications for management. A 12-lead EKG will assess for evidence of coronary artery disease (CAD), left ventricular hypertrophy (LVH), or (uncommonly) an accessory conduction pathway (ie, Wolff-Parkinson-White syndrome [WPW]).