Today, emergency medicine specialists can safely cardiovert patients who have new or recent-onset atrial fibrillation (AFib) or flutter, resolving this heart arrhythmia and discharging patients home. Though the vast majority of hospitals are not yet taking advantage of this newer approach, direct-current cardioversion of AFib in the emergency department (ED) gives patients prompt symptom relief, returns them to normal sinus rhythm and spares them additional treatment and time in the hospital.

With the U.S. population aging, and medical and public recognition of AFib expanding, the condition is receiving increased attention, which is helping to drive such solutions. Most medical centers are still simply controlling the AFib patient’s heart rate in the ER and admitting the patient for monitoring and medical treatment, despite the availability of a quicker, more cost-effective response.

“Cardioversion relieves patient distress with a minimal amount of hospital time,” said Alfred Sacchetti, MD, FACEP, Chief of Emergency Services at Our Lady of Lourdes Medical Center, which is one of the few hospitals in the region to offer cardioversion in the ED.

**Resolving the Arrhythmia Quickly**

AFib is the most common cardiac arrhythmia seen in EDs and one that can lead to complications. Some patients, especially those with chest pain, faintness or other more-acute symptoms, may arrive at the ER by emergency transport; others, especially those already familiar with the symptoms of AFib, may self-admit for relief of palpitations, shortness of breath, dizziness and weakness. While many episodes will resolve on their own, many will not. And often, spontaneous resolutions of AFib are temporary.

In experience initially presented at last year’s Society of Academic Emergency Medicine annual meeting, Dr. Sacchetti and colleagues showed that immediate cardioversion of AFib eliminates the need to send patients home on anticoagulation therapy, reduces the risk of stroke and increases the chance of maintaining sinus rhythm post-discharge. “Prompt resolution is important because AFib is progressive. The heart can become conditioned to AFib and start to remodel,” said Lourdes cardiologist Steven Levi, MD.

Emergency department cardioversion of atrial fibrillation of short duration is a proven, patient-centered, resource-conserving practice.

Last year, the group presented data based on more than 300 AFib patients managed in the ED. Results published this year (Am J Emerg Med) revealed that cardioversion improves quality of life, provides for a quicker return to normal activities and permits discharge of upwards of 90 percent of patients the same day (versus admission to the hospital for at least two or three days).

**Broad Eligibility for Successful Treatment Step**

For cardioversion, the ER physician must be reasonably confident that the patient can place the onset of symptoms within less than 48 hours or that the patient is already on some form of anticoagulation. Age or CHADS score is not a factor in eligibility. In most cases, slowing the patient’s heart rate prior to cardioversion is not necessary. The team typically uses propofol to sedate the patient.

Concerns about cardioversion have included triggering of ventricular arrhythmia or thromboembolic events after discharge, but worldwide data reveal negligible incidence of such problems. Multiple studies have shown not only the safety of the procedure, but its superiority over pharmacologic cardioversion for obtaining sinus rhythm. A direct-current shock with a cardioversion unit has a significantly higher success rate (above 90 percent), and patients spend less time in the ER (generally two hours or less).

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*Focus in the ER on treating AFib has begun to shift to converting the patient back to normal sinus rhythm in the emergency department. Lourdes’ ER is one of only a handful in the region using this system, which delivers an electrical shock at a precise moment between the QRS complex to avoid any production of ventricular fibrillation.*

*Erin Murphy, APN-C, Nurse Practitioner, Emergency Services, Our Lady of Lourdes Medical Center*
“Still, treatment of AFib in the ER is individualized,” explained Dr. Sacchetti. “If the patient has a cardiologist, the emergency medicine physician will usually consult with that specialist, in case the decision is to move the patient directly to the electrophysiology lab for treatment instead, or to determine what pharmacologic or other therapy the cardiologist wants to initiate in the ED.” Patients also see their cardiologists promptly after cardioversion in the ER.

Towards Avoiding Prolonged AFib

“Simply speaking, cardioversion is the safest treatment for this group of patients,” said Dr. Sacchetti, who was also the first patient to undergo this type of cardioversion at Lourdes. “If we admit patients with a new AFib event to the hospital, they have a higher risk of complications. Plus, cardioversion puts them in a more stable condition for ablation or other treatment, if needed.”

Patients, of course, can choose to be admitted instead of cardioverted, but most who are familiar with this option, or are offered it, chose cardioversion. Many comment on how simple and painless the procedure is. “AFib patients specifically seek out our ER because they understand that we offer this capability,” noted Dr. Sacchetti.

Direct cardioversion of recent-onset AFib is a worldwide standard of care (except in the U.S.) It’s also economical. This year, Dr. Sacchetti and co-researchers published a study (West J Emerg Med) showing that median charges for patients whose final ED rhythm was normal sinus were about $5,600, while for those remaining in AFib at the time of moving from the ER costs were about $30,000.

For more information, visit www.lourdesnet.org or call 1-888-LOURDES (1-888-568-7337).