Atrial Fibrillation

Patient Profile
E.W., a 76-year-old white man, comes to the emergency department after a syncopal episode at a local restaurant. He is accompanied by two friends.

Subjective Data
- Has been feeling weak for a few days
- Became dizzy and fainted while awaiting his dinner
- Takes one medication, a "water pill" for high blood pressure (BP)

Objective Data
Physical Examination
- BP 92/50, pulse 125 and irregular, respirations 24, temperature 97°F
- Alert and oriented
- Lung sounds clear in all fields

Diagnostic Studies
- ECG monitor shows atrial fibrillation

Discussion Questions
1. What is atrial fibrillation?
   Answer: Atrial fibrillation is an irregular heartbeat that usually occurs with an underlying heart disease. Patients may experience "palpitations" or state their "heart is skipping." The clinical significance includes possible thrombi formation.
   Rationale: Atrial fibrillation is characterized by a total disorganization of atrial electrical activity caused by multiple ectopic foci, resulting in loss of effective atrial contraction. A thrombus can result because of blood stasis.

2. What are your priority actions at this time?
   Answer: Assess the clinical significance of the atrial fibrillation. Place E.W. on continuous cardiac monitoring to determine the nature of the rapid, irregular heart rate and provide continuous assessment. Assess the apical pulse. Validate the low BP. Take the BP a second time, at least 1 minute after the first reading. Take the BP on both arms. Continue to monitor BP, mental status, and respiratory status. Determine oxygen saturation to decide if supplemental oxygen is indicated and, if so, administer per protocol. Establish intravenous access. Ensure E.W.'s safety and instruct him to remain on the stretcher and notify the nurse if he has any chest pain or lightheadedness.
   Rationale: Constant monitoring is needed as cardiac output is decreased. Low oxygen saturations and low BP may require early interventions.

3. What additional history should you obtain from E.W.?
   Answer: Is he currently experiencing any chest pain or pressure, syncope, weakness, palpitations, or shortness of breath? Does he have a history of heart disease? When did he last take the "water pill"? Can he find out what medication he is taking and what the dosage has been? Does he have family members that need to be notified of his treatment in the emergency department? How long has he been feeling weak? Has he ever fainted before?

Rationale: Collecting relevant past medical history and social history are important to provide overall care to the patient. Try to obtain a complete medication history as medication reconciliation is important to the patient's ongoing treatment.

4. Describe the risks associated with atrial fibrillation.
   Answer: E.W. is at risk for angina, heart failure, and developing a more serious dysrhythmia. Thrombi may form in the atria because of blood stasis; an embolized clot may develop and pass to the brain, causing a stroke.
   Rationale: Because of the decrease in cardiac output with ineffective atrial contractions or a rapid ventricular response, E.W.'s heart may not function as well.

5. E.W. is placed on diltiazem, warfarin, and dronedarone. What is the purpose of each of these medications in treating E.W.'s atrial fibrillation?
   Answer: Diltiazem is a calcium channel blocker. As an antidysrhythmic agent, it is used to slow ventricular response rate. Warfarin, an anticoagulant, is used to prevent development of blood clots in the fibrillating atria of the heart. Dronedarone is used to restore and maintain a normal heart rhythm in patients with atrial dysrhythmias.
   Rationale: Diltiazem is a calcium channel blocker. As an antidysrhythmic agent, it is used to slow ventricular response rate. Warfarin, an anticoagulant, is used to prevent development of blood clots in the fibrillating atria of the heart. Dronedarone is used to restore and maintain a normal heart rhythm in patients with atrial dysrhythmias.

Case Study Progress

E.W. is admitted with a diagnosis of new onset of atrial fibrillation. Despite medical therapy, 12 hours later, he is still experiencing dizziness, and his systolic BP remains below 100. A transesophageal echocardiogram is done, showing E.W. does not have any blood clots, so the provider elects to perform a cardioversion.

6. What instructions should you give E.W. to prepare for a cardioversion? What do you tell him to expect during the procedure and what nursing assessments will you be performing?
   Answer: Tell E.W. that a cardioversion is used to restore a normal heart rate. The cardioversion itself usually takes only a few minutes. Before the procedure, he will be given medicine to help relax him, and special electrodes will be put on his chest. He will remain on the heart monitor. His vital signs will be monitored frequently during and after the procedure. Afterward, his oxygen therapy will resume. You will be monitoring his level of consciousness as he awakens from the sedation.
   Rationale: Educating the patient about the procedure allows the patient to become a better and more knowledgeable part of the healthcare team. The healthcare team is about to send a current of electricity through the patient's heart. Constant monitoring of the ECG and vital signs, including a physical assessment, is required to ensure the patient has a positive outcome or to intervene if needed in a timely manner.