Atrial flutter (AFI) is a cardiac dysrhythmia characterized by rapid and regular depolarization of the atria that appears as a sawtooth pattern on the electrocardiogram (ECG) and is categorized into type I (typical) and type II (atypical) AFI. The ECG in type I (typical) AFI is characterized by an inverted sawtooth flutter (F) wave pattern in the inferior leads II, III, and aVF, low amplitude biphasic F waves in leads I and aVL, an upright F wave in precordial lead V1, and an inverted F wave in lead V6. Type I AFI is most commonly caused by the presence of a macro-reentrant circuit in the right atrium that includes a small strip of tissue between the inferior vena cava and the tricuspid annulus known as the cavotricuspid isthmus. The ECG in atypical (type II) AFI is characterized by upright F waves in leads II, III, aVF, and V6 and by biphasic F waves in leads I, aVL, and V1. The underlying mechanism of type II AFI is unclear. Risk factors for AFI include presence of heart failure, chronic obstructive pulmonary disease, antiarrhythmic medications, thyrotoxicosis, pulmonary embolism, prior cardiac surgery or prior atrial ablation. Common symptoms of AFI include palpitations, lightheadedness, fatigue, presyncope, mild shortness of breath, and possibly chest pain or hypotension. The initial treatment for AFI focuses on rate control of the ventricular response with AV nodal blocking agents such as beta-blockers and calcium channel blockers. If rhythm identification is unclear and the patient is stable, adenosine or Valsalva maneuver may be employed to slow conduction through the AV node such that the atrial flutter waves are more readily apparent. Hemodynamically unstable patients with AFI should receive synchronized electrical cardioversion.

References