Arrhythmias in Hospitalized Heart Transplanted Patients: A United States National Study

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Background
• Abnormal anatomy, sympathetic denervation, rejection, infection, and immunosuppressive drugs may increase the risk for arrhythmias in heart transplanted (HT) patients.
• Data are limited regarding arrhythmias in hospitalized HT patients.

Objective
• To identify various arrhythmias identified and documented in hospitalized HT patients using a large US national database.

Methods
• Nationwide Inpatient Sample databases from 2003 through 2012 were queried for hospitalizations in HT recipient patients ≥ 18 years of age using ICD9 code V42.1
• Hospitalizations with a primary or secondary discharge diagnosis of acute myocardial infarction were excluded.
• Individual arrhythmias and associated discharge diagnoses were then identified using appropriate ICD-9 and CCS codes.

Results
• Of the 132,552 hospitalizations in HT patients, a diagnosis of arrhythmia was present in in 17,693 (13.3%).
• Atrial arrhythmias (7.8%) were substantially more common than ventricular arrhythmias (1.0%). Atrial fibrillation (AF) (6.0%) was the most common arrhythmia followed by atrial flutter (1.8%; Figure 1A).

Figure 1. A) Various arrhythmias in hospitalized heart transplanted patients; B) Principal diagnosis for hospitalization in heart transplanted patients with arrhythmias.

• Among hospitalizations in which an arrhythmia was present in a HT patient, the primary discharge diagnosis was more likely to be an infectious disease (21%), rather than the arrhythmia (13%) or congestive heart failure (5.5%; Figure 1B).
• In patients primarily admitted with complications of the transplanted heart including rejection and allograft vasculopathy (n=443), 24.7% had a diagnosis of an arrhythmia, with almost half having AF (11%).

Conclusion
• Arrhythmias are common in hospitalized HT patients, with AF being the most common. In this patient population, arrhythmias may often represent a consequence of HT-related complications such as infection or rejection.
• Given the anatomical and functional alterations of the transplanted heart, studies are needed to better understand and manage these arrhythmias.

Disclosures
• None of the authors have any relevant disclosures.

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