Introduction

In patients presenting with acute coronary syndrome (ACS), supra-ventricular tachyarrhythmias (SVTs) are relatively common in the peri-infarction period. Their occurrence often heralds significant myocardial ischemia with ventricular dysfunction or cardiogenic shock and may, in themselves, cause congestive heart failure and exacerbate ongoing myocardial ischemia. They also are a predictor of short and long term complications and prognosis ***(Brazdzionyte and Baksyte 2004)***.

Atrial fibrillation (AF) is the commonest sustained arrhythmia, accounting for more than 2.3 million cases in the United States ***(Go et al., 2001)***, and it is known to be associated with both thrombo-embolic and cardiovascular events ***(Lip Gregory et al., 2002)***.

In particular, patients with AF have about 5-fold increase of stroke risk, which is prevalently dependent on thrombosis occurring in the left atrium or left atrial appendage. With the increasing elderly population, the prevalence of AF is estimated to rise, conferring a significant mortality and morbidity. It Affects up to 9% of the population by the age of 80 years ***(Page 2004)***.In addition, atrial fibrillation is associated with increased in-hospital mortality in the setting of an acute coronary syndrome (ACS) ***(Mehta et al., 2003)***.Approximately 39% of patients with atrial fibrillation present with concurrent chest pain ***(Zimetbaum et al., 2000)***.

Non ST-segment elevation ACS including unstable angina and non ST- segment elevation myocardial infarction, account for approximately 1.35 million annual emergency department admissions in the United

States, which represent about 70% of the 1.92 million total admissions for all ACS ***(Savonitto et al., 1999)***.

Once atrial fibrillation occurs, the atrium loses its pump function, contributing to the deterioration of cardiac hemodynamics. The incidence of congestive heart failure and in-hospital mortality rates is higher in acute myocardial infarction (AMI) patients with atrial fibrillation (AF) than those without AF. Pharmacological treatment with drugs aimed to reduce the size of the infarction and ventricular remodeling has also been beneficial in reducing the incidence of AF, suggesting that hemodynamic impairment was the most likely mechanism underling this arrhythmia.

The presence of AF in patients with acute coronary syndrome is associated with greater risk of adverse events as increased morbidity and mortality associated with stroke and thrombo-embolism ***(Pedersen et al., 2006)***.

Studies of AF in AMI, however, have been done exclusively among patients presenting with acute ST-segment elevation AMI Thus, little is known about the incidence, predictors, and prognosis of AF in patients with unstable angina or non–ST segment elevation AMI ***(Mehta et al., 2003)***.