**OBESITY AND ATRIAL FIBRILLATION**

**M.A. Alpert**

University of Missouri School of Medicine, Columbia, MO, USA

Obesity and atrial fibrillation (AF) are both increasing in epidemic proportions in the United States and worldwide. While AF may be associated with a variety of co-morbidities in obese patients, obesity itself has been found to be an independent predictor of AF. Alterations in cardiac hemodynamics, cardiac morphology, and ventricular function such as a high cardiac output state, concentric or eccentric left ventricular hypertrophy, left ventricular diastolic dysfunction, left atrial enlargement and left atrial hypertension may predispose to heart failure (obesity cardiomyopathy) and subsequent atrial fibrillation. Obstructive sleep apnea occurs commonly in obese individuals and may also contribute to the development of AF. In particular, left atrial remodeling is a key risk factor for AF in obese patients. In recent years, it has become evident that large quantities of epicardial and pericardial adipose tissue may predispose to AF. This appears to be related to the presence of a dense plexus of autonomic nerve fibers imbedded in fat depots in contiguity with the pulmonary veins as well as a variety of paracrine activities that promote inflammation, left atrial fibrosis, and left atrial remodeling. These alterations promote slowing and heterogeneity of conduction in the left atrium which in turn predispose to AF. Cardiorespiratory fitness appears to be an important predictor of AF in obese patients. Whether an obesity paradox exists for obesity and AF is uncertain. Limited data suggest that weight loss in association with favorable changes in lifestyle may reduce the risk of AF in obese persons.